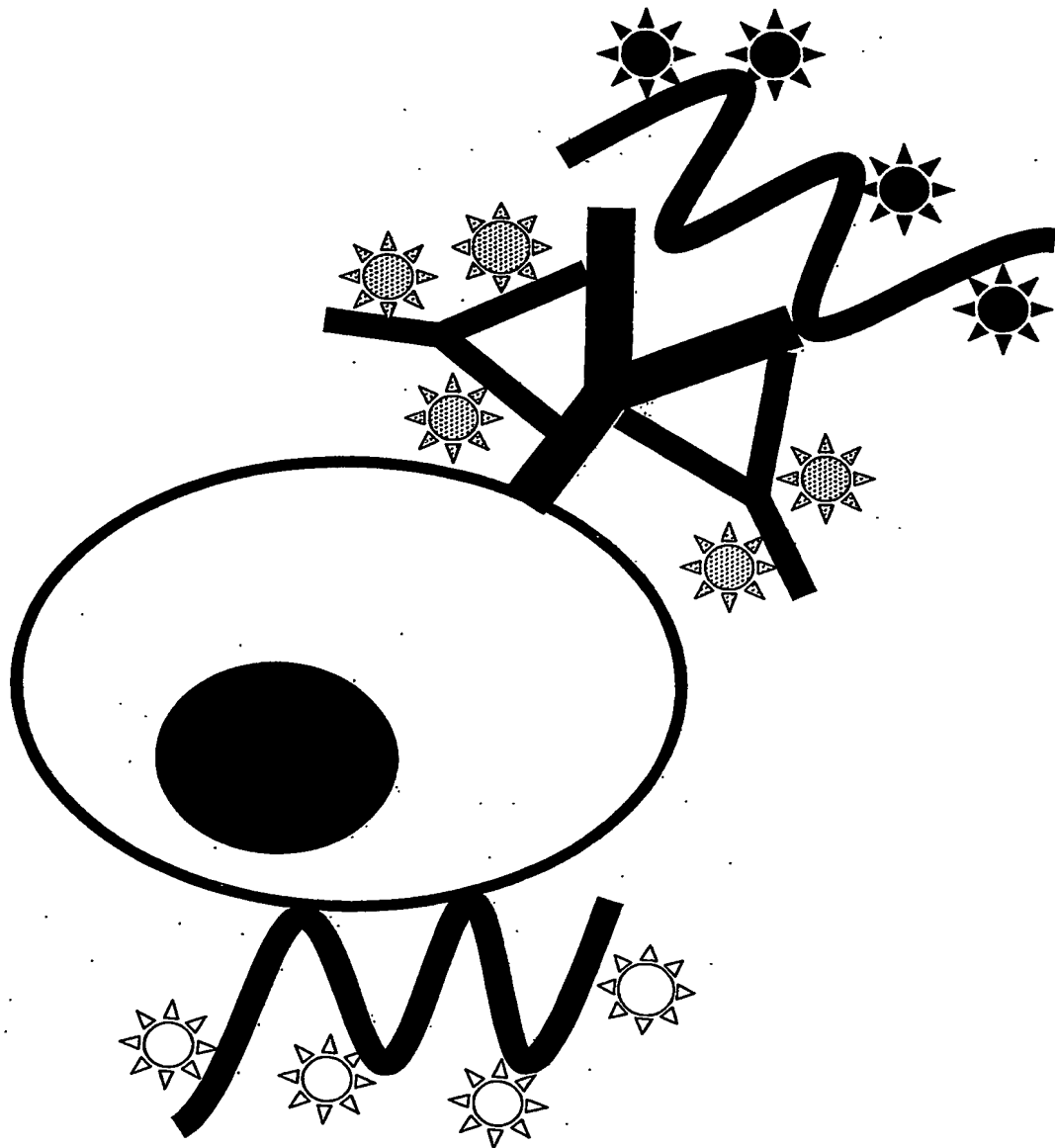


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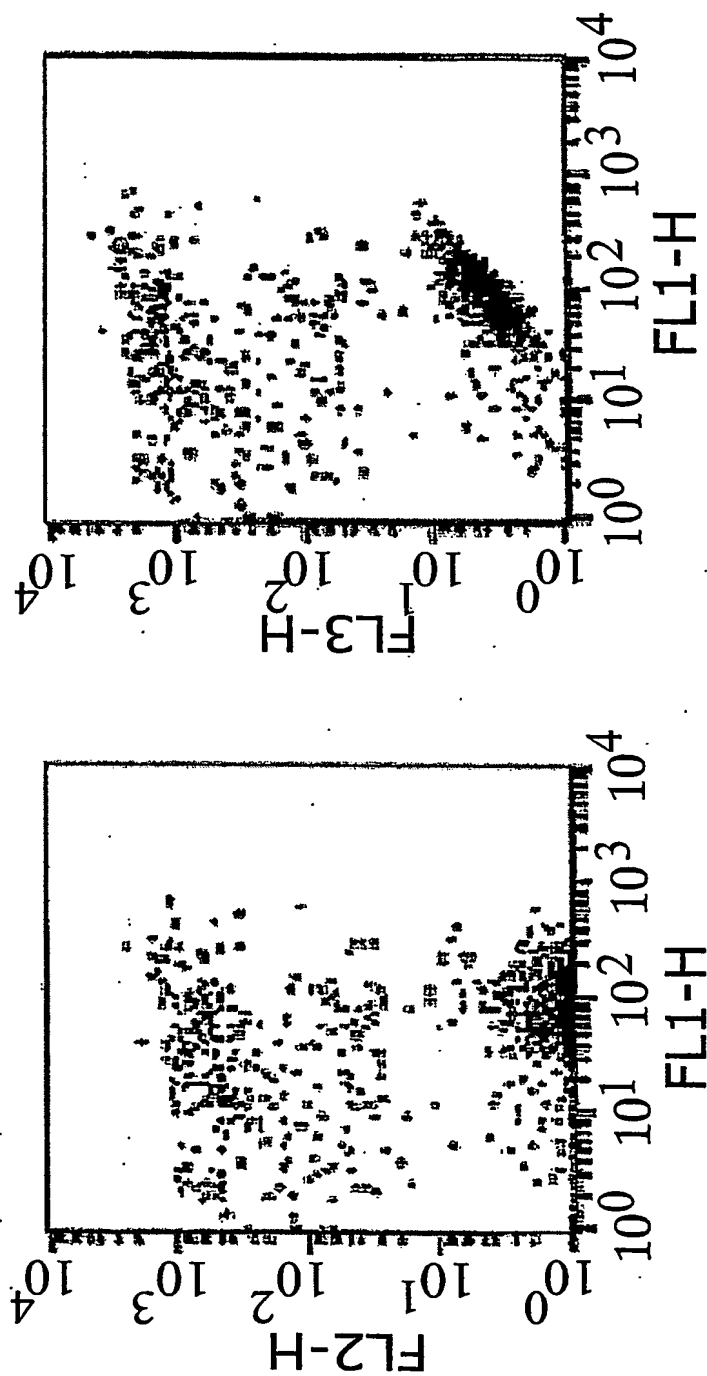
Figure 1



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Figure 2A



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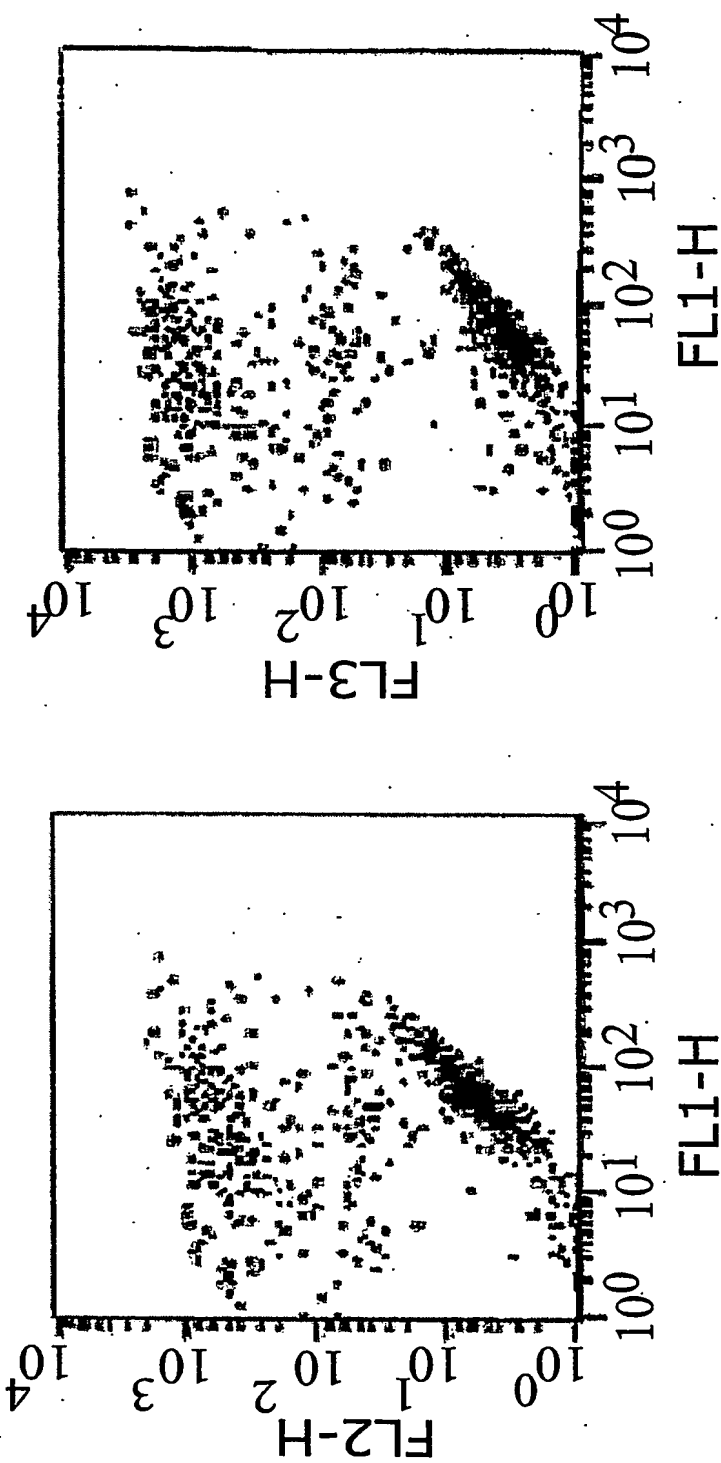
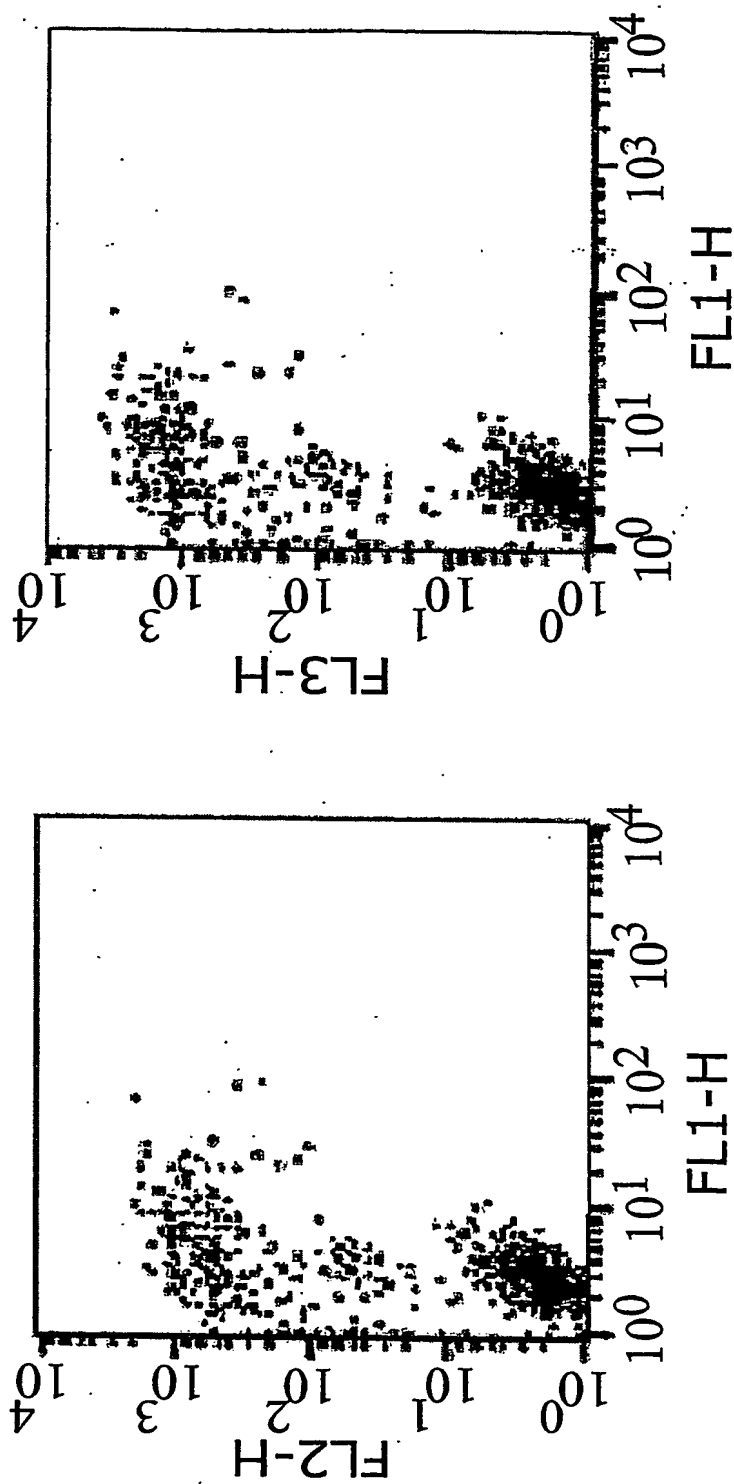


Figure 2B

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Figure 2C



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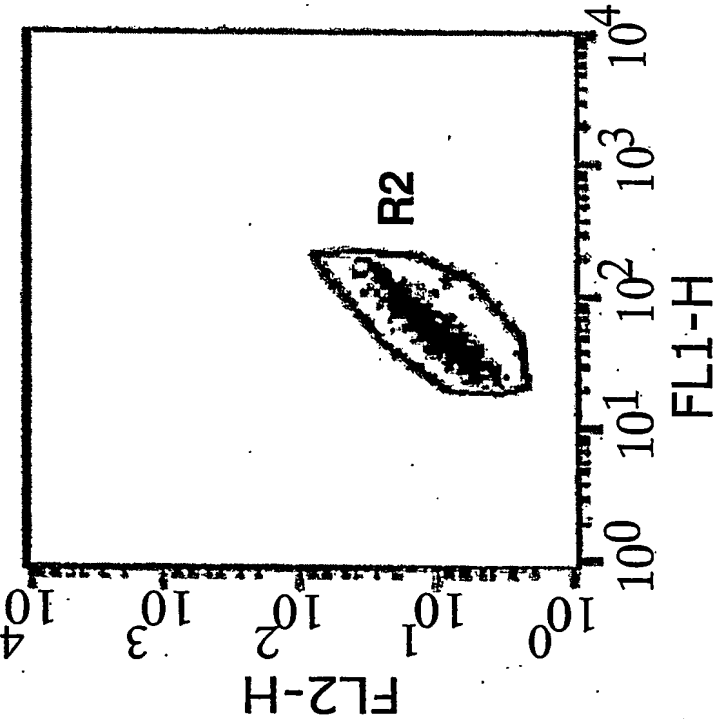
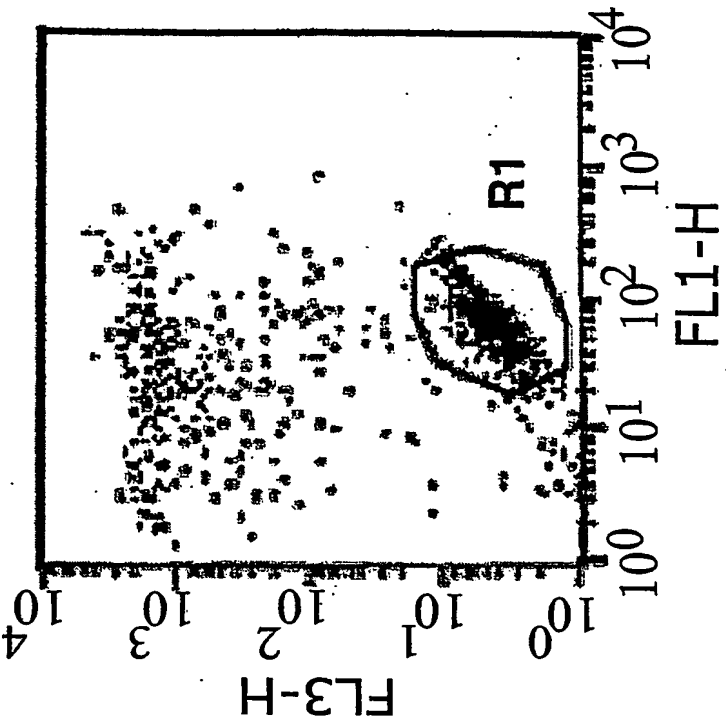


Figure 2D

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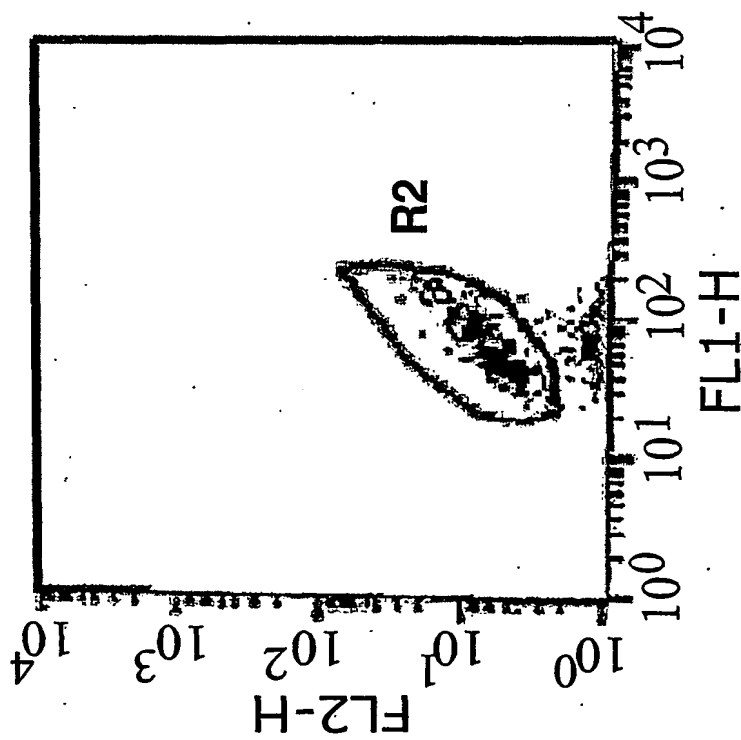
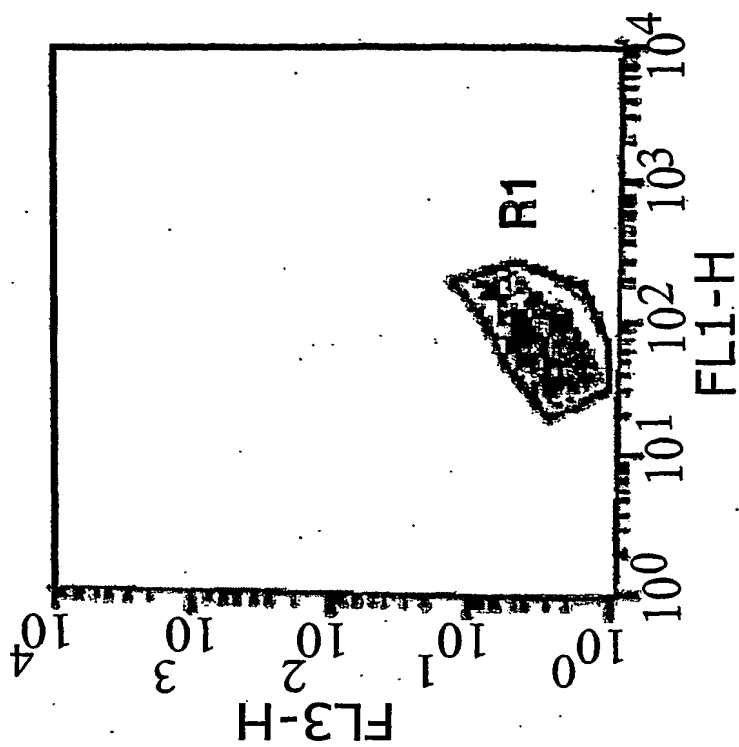


Figure 2E

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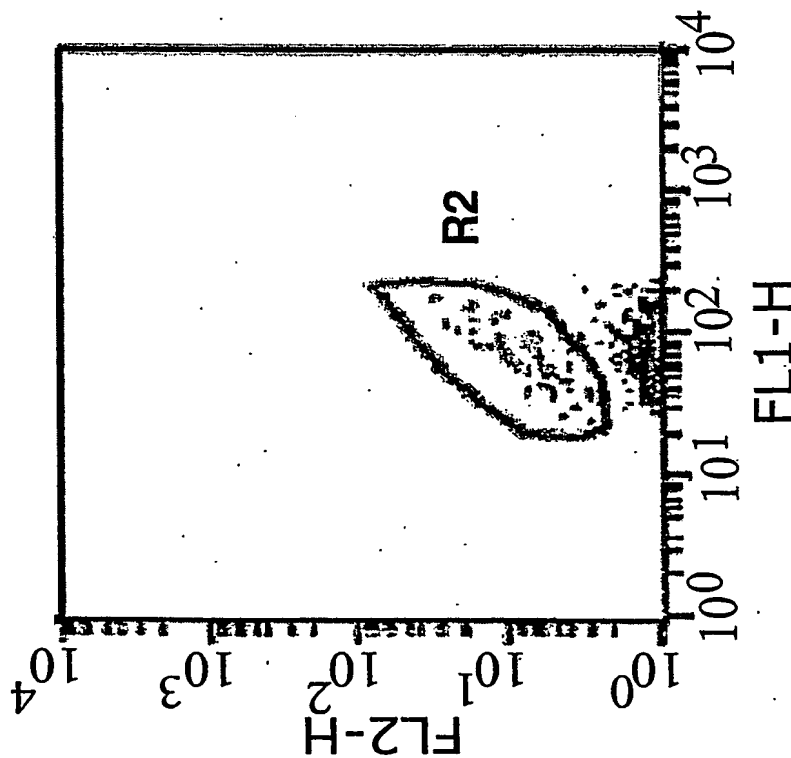
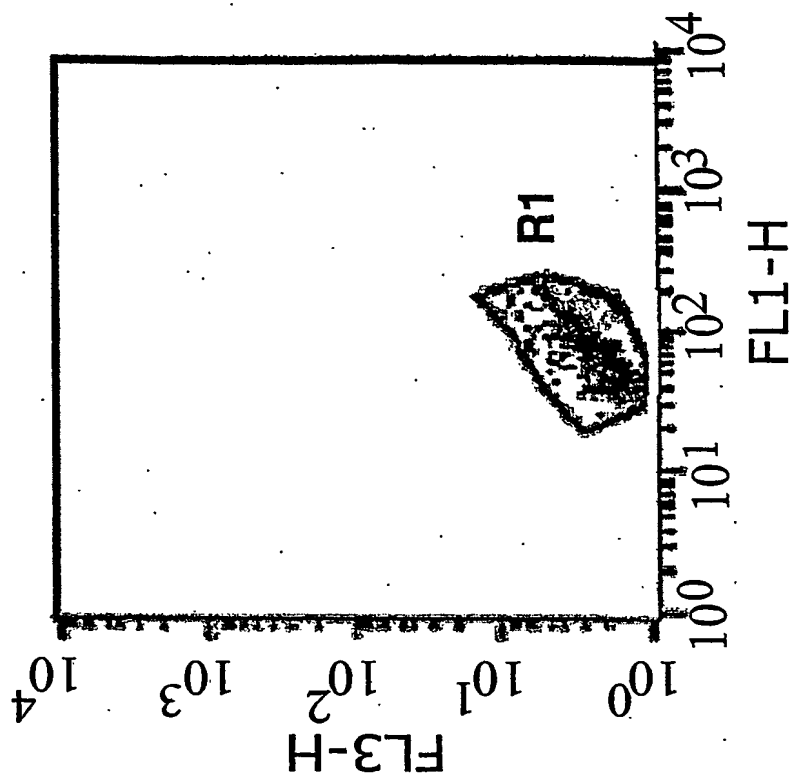


Figure 2F

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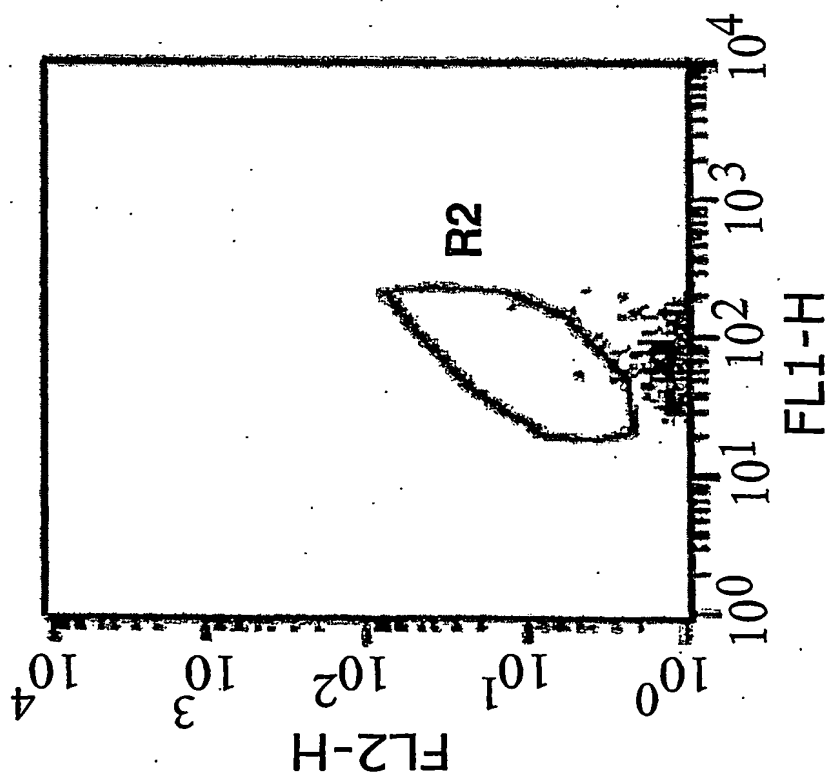
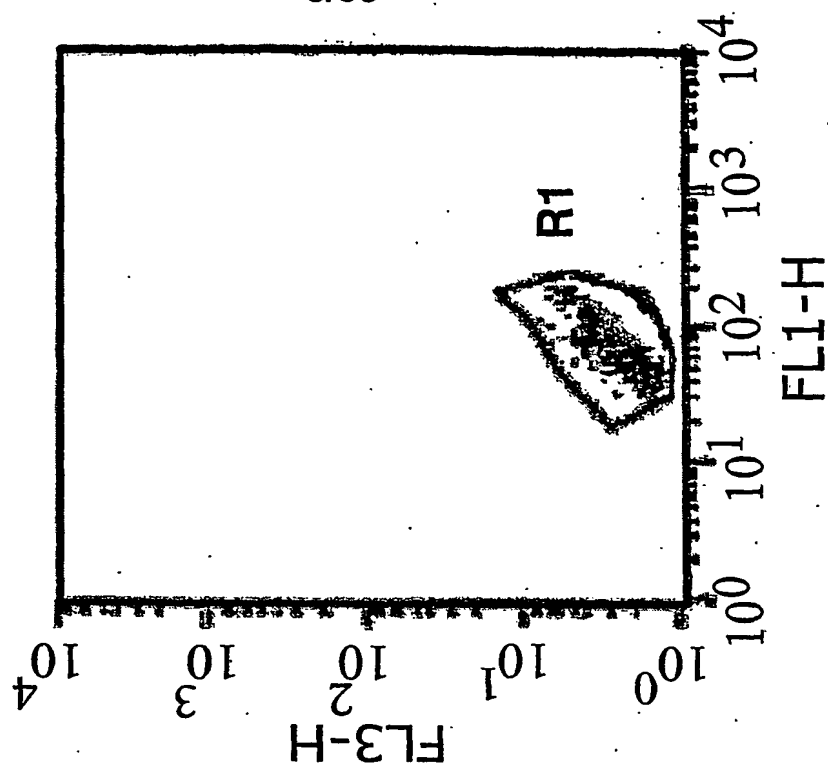


Figure 2G



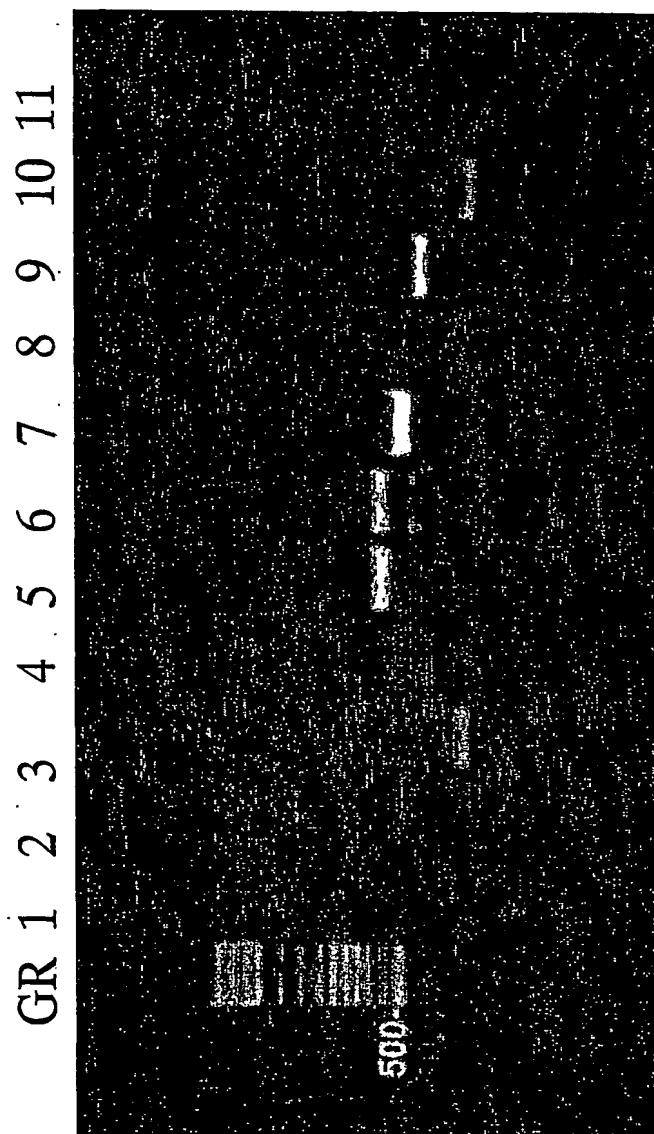
Figure 3A

GR 1 2 3 4 5 6 7 8 9 10 11 12



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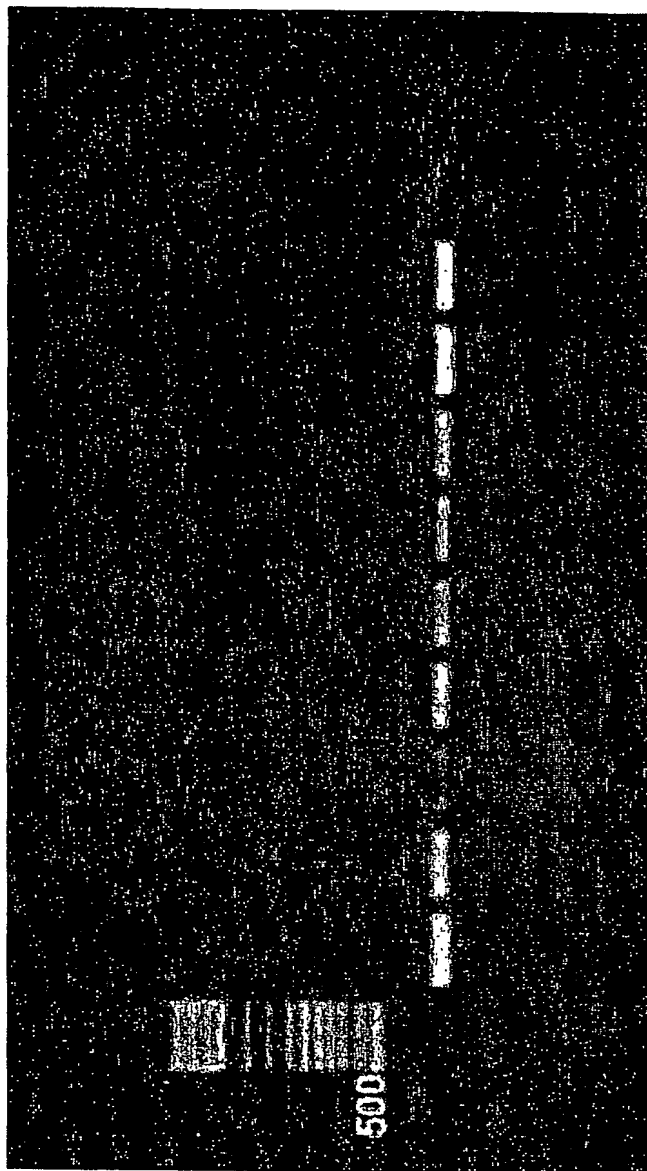
Figure 3B



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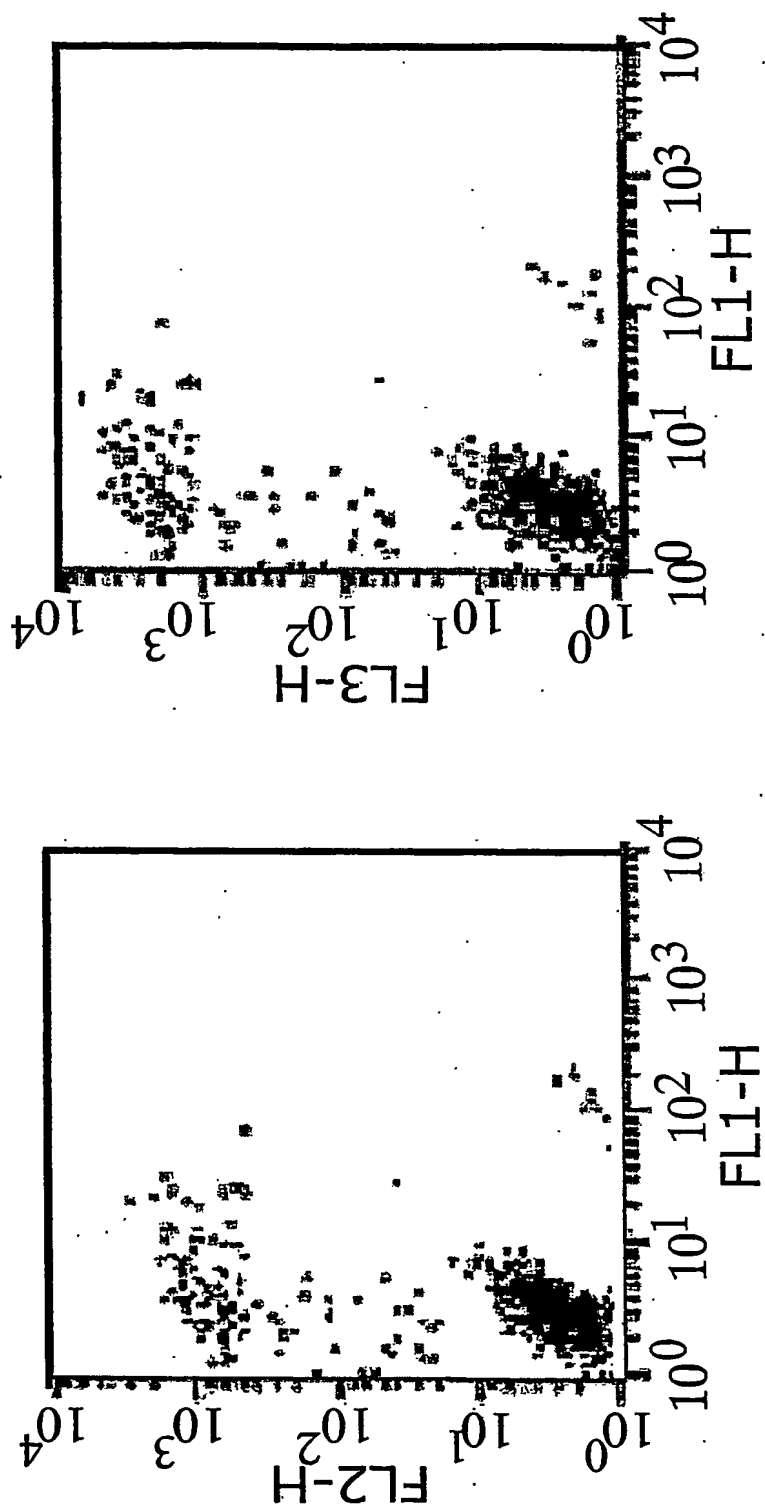
Figure 3C

GR 1 2 3 4 5 6 7 8 9 10 11



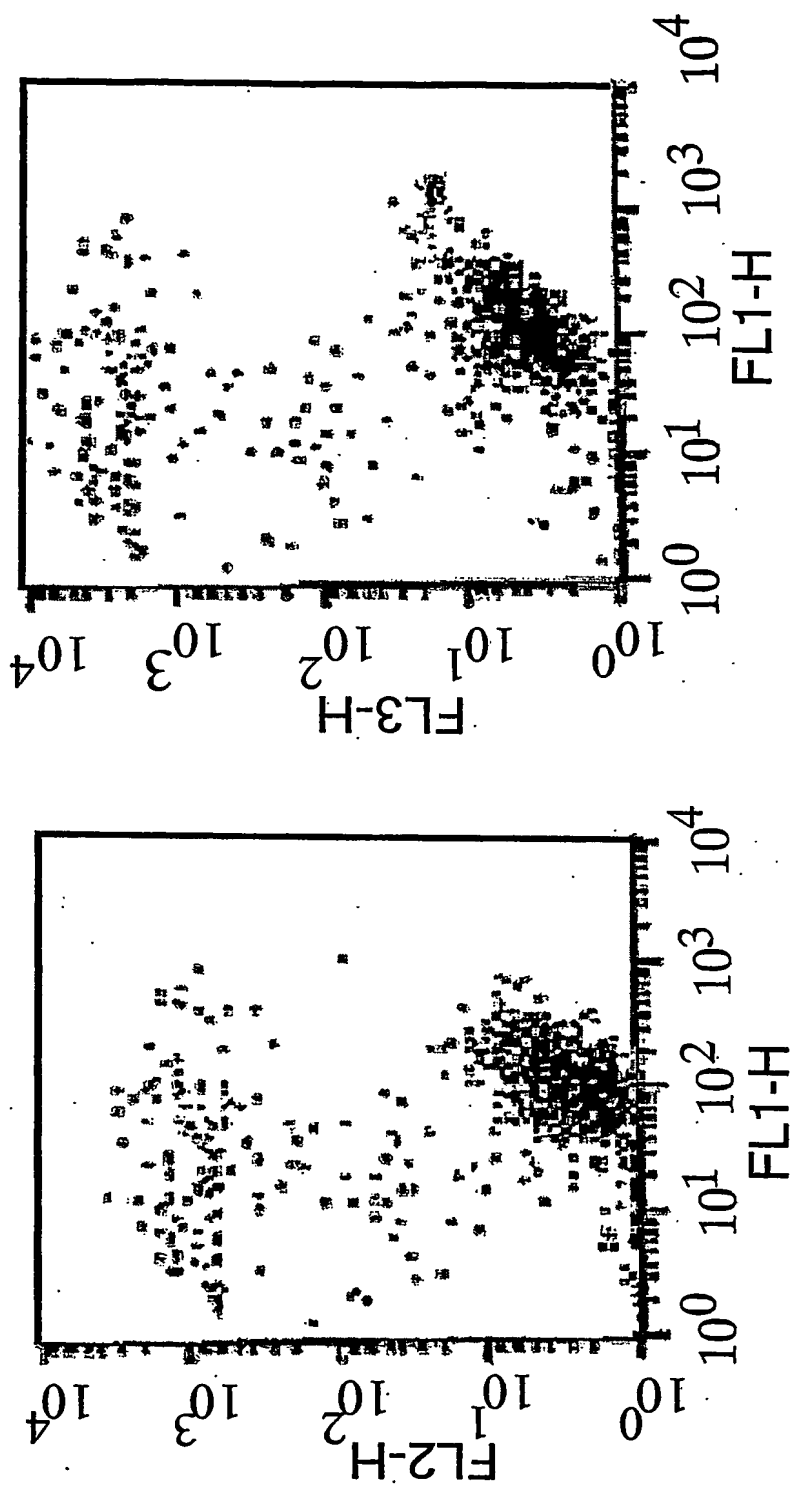
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Figure 4A



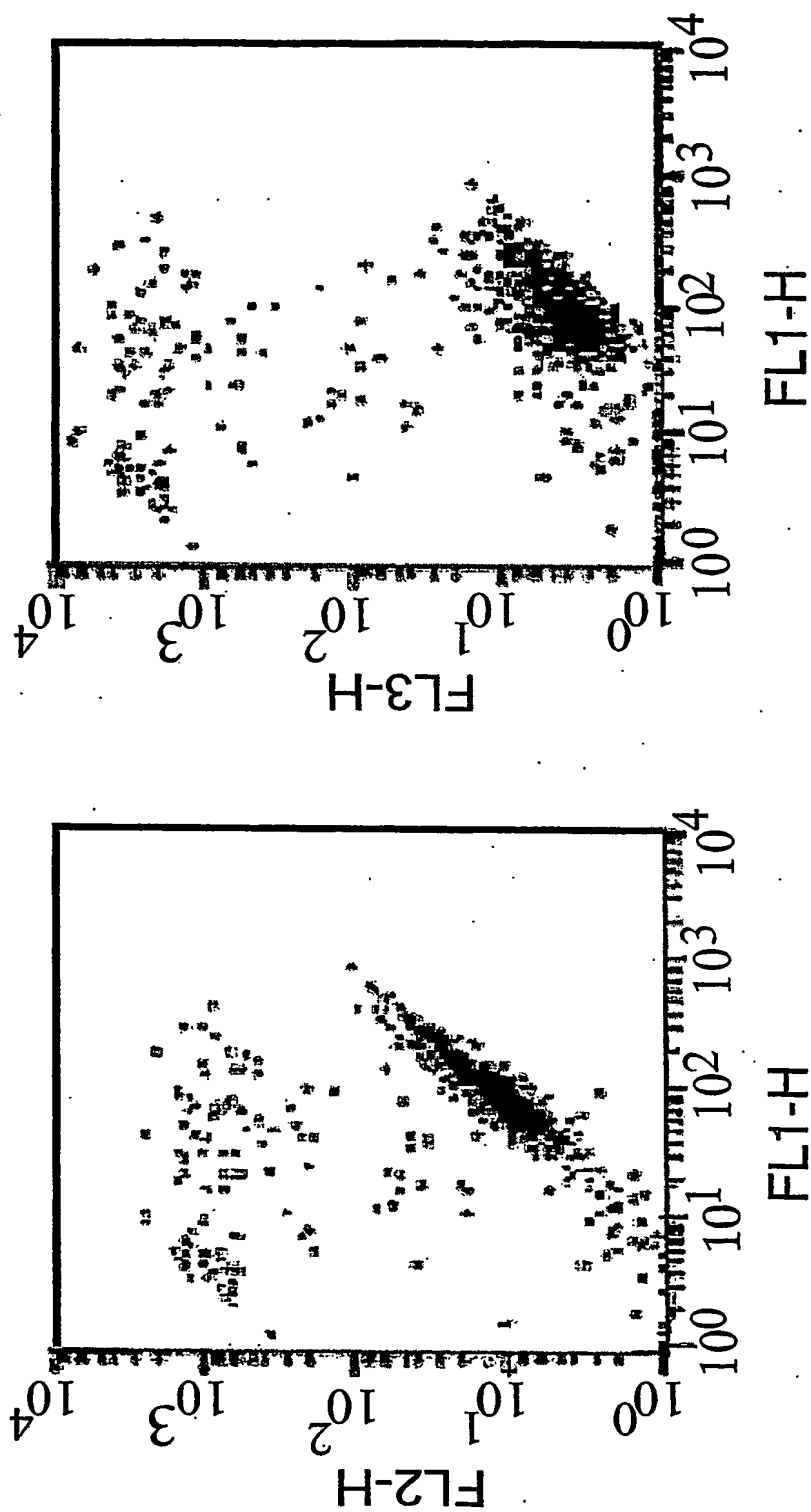
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Figure 4B



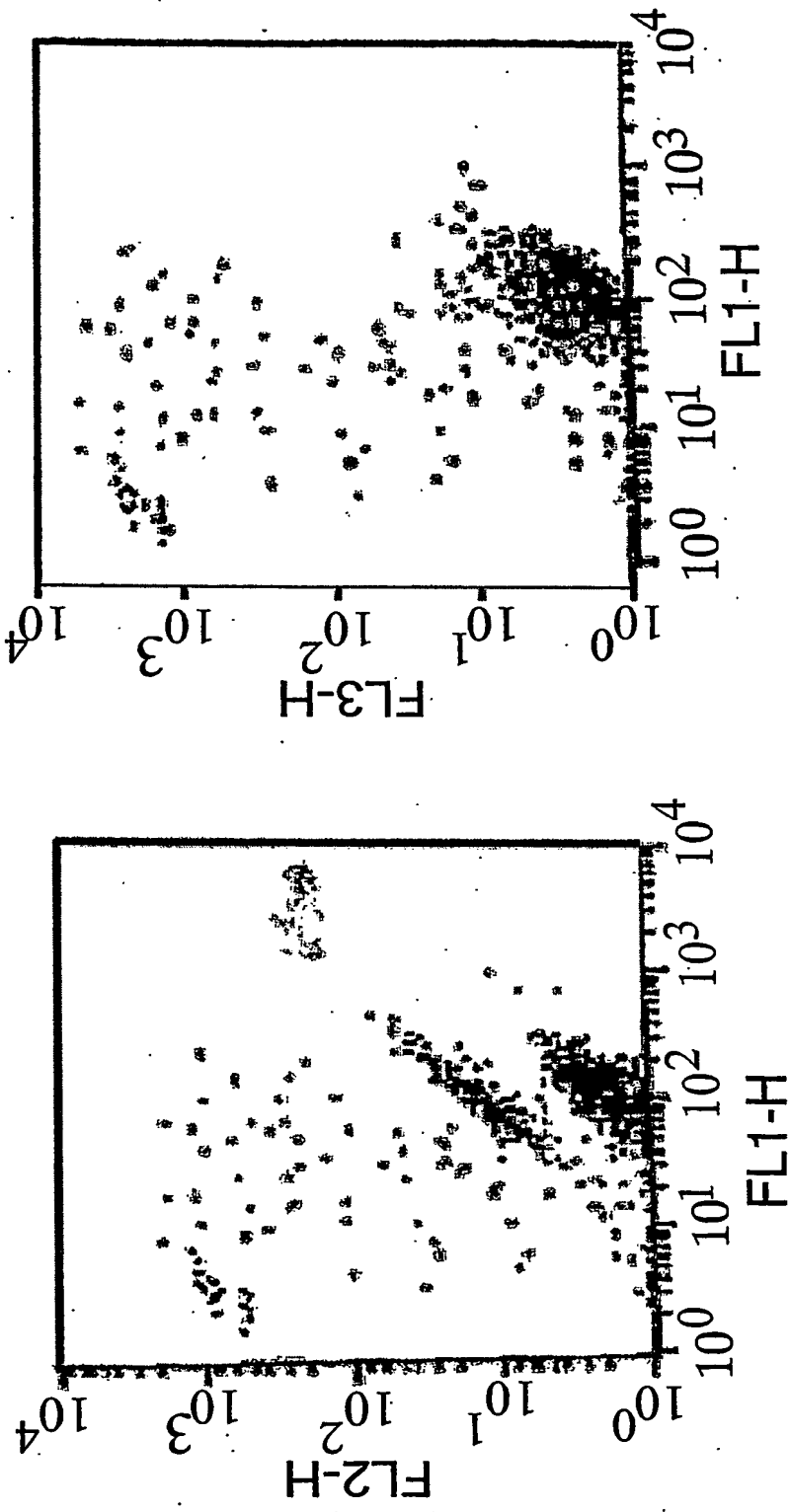
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Figure 4C



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Figure 4D



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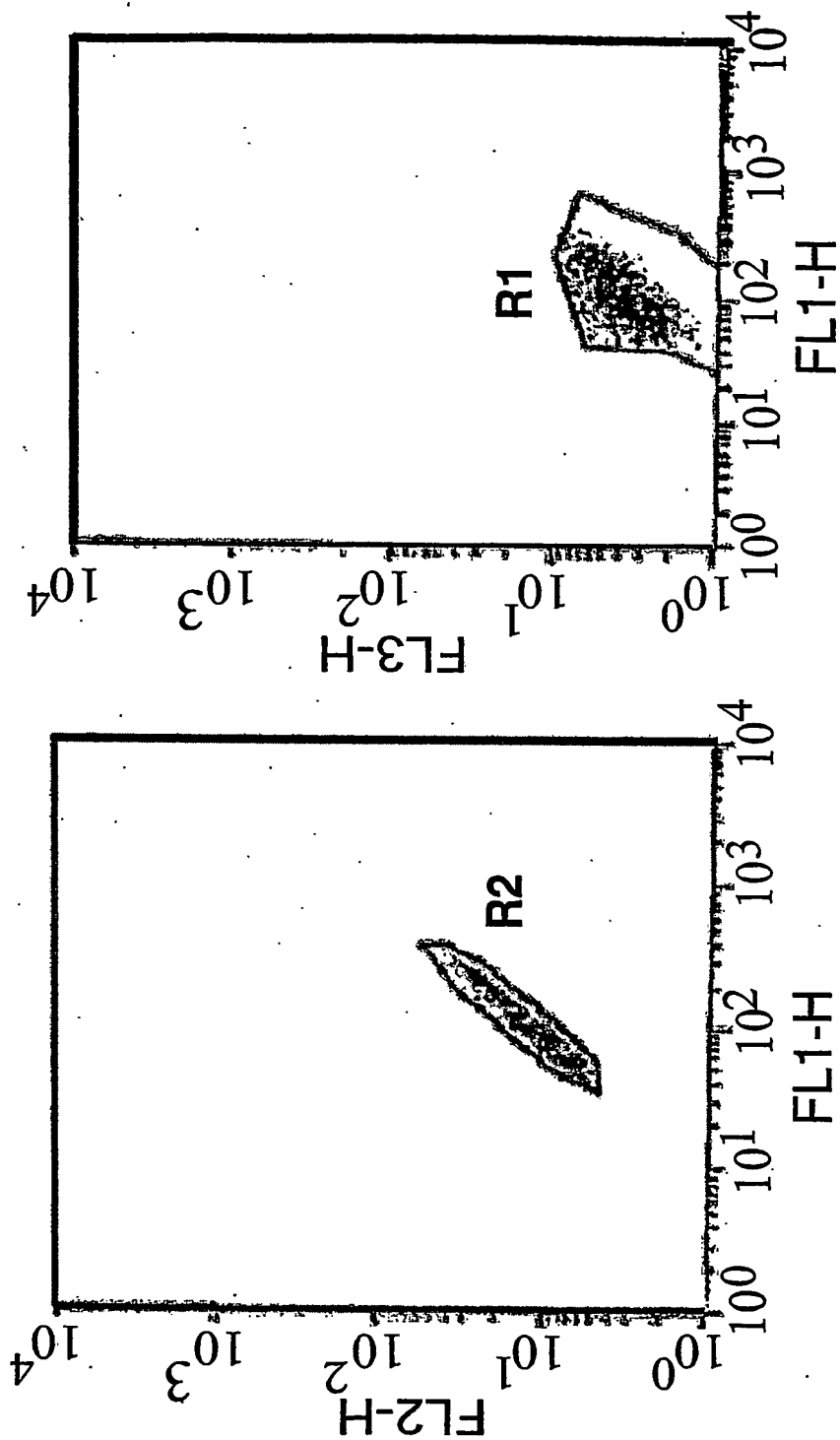
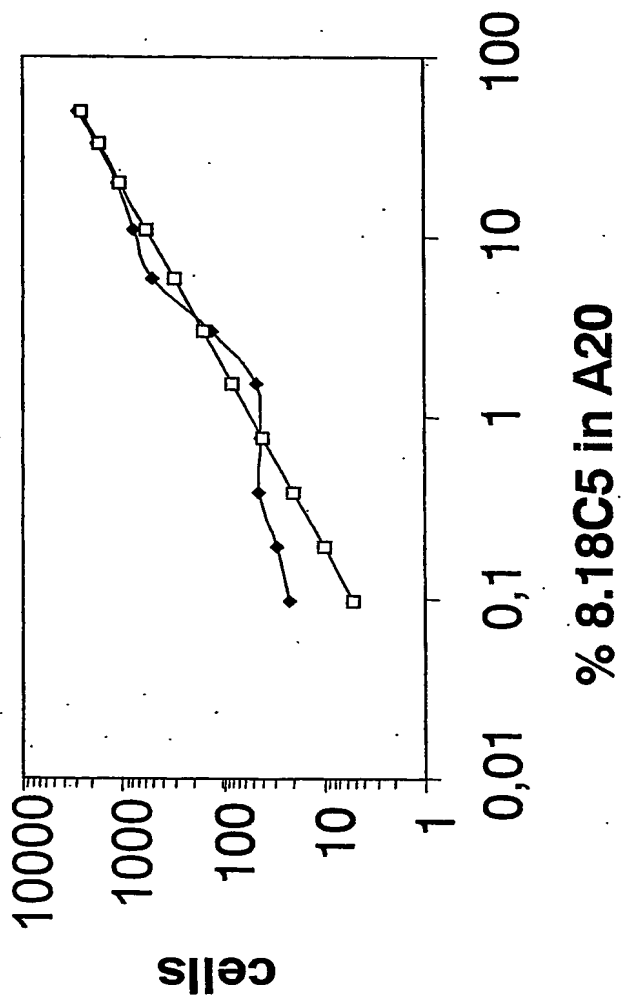


Figure 4E



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Figure 5



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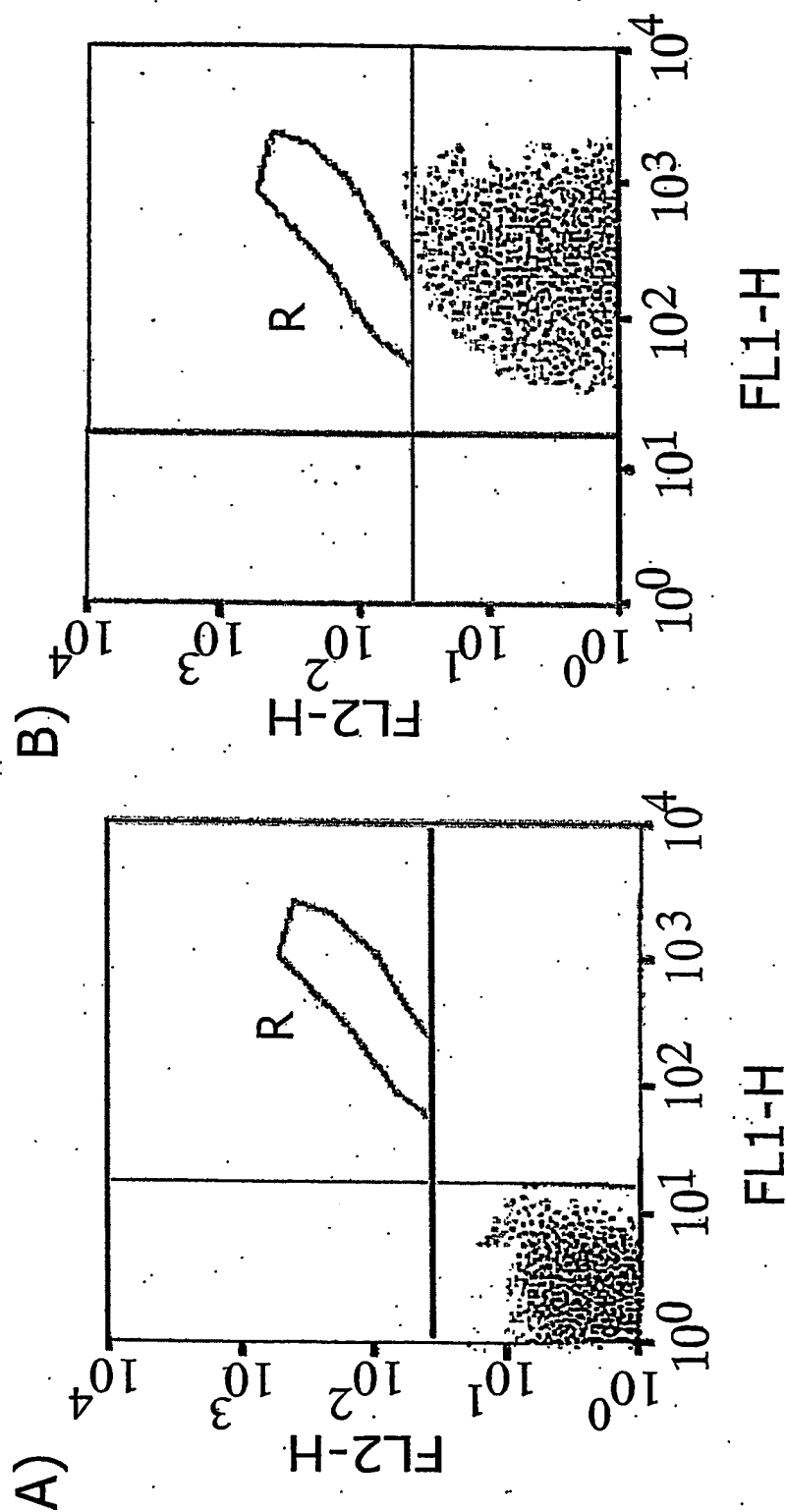
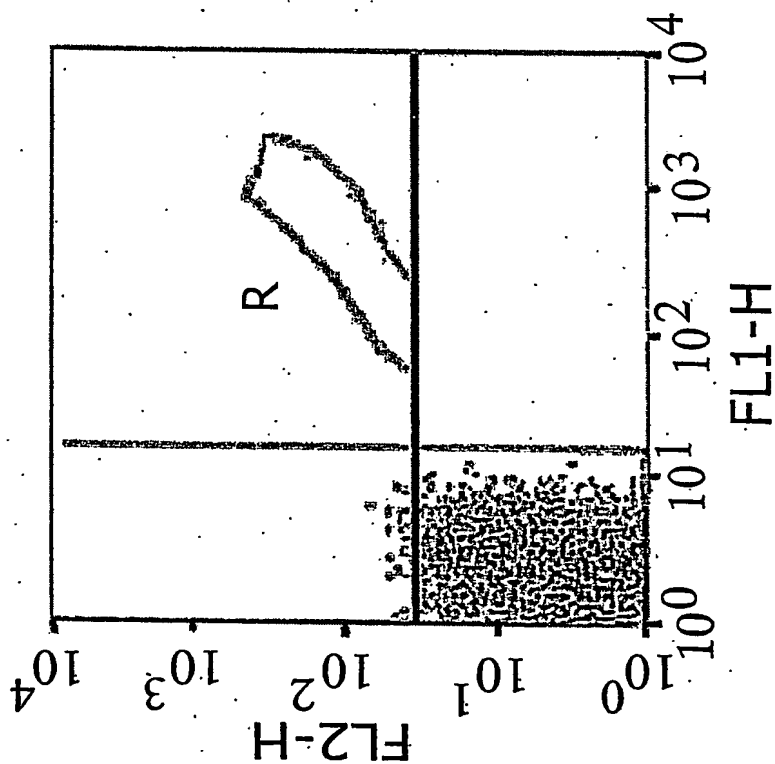


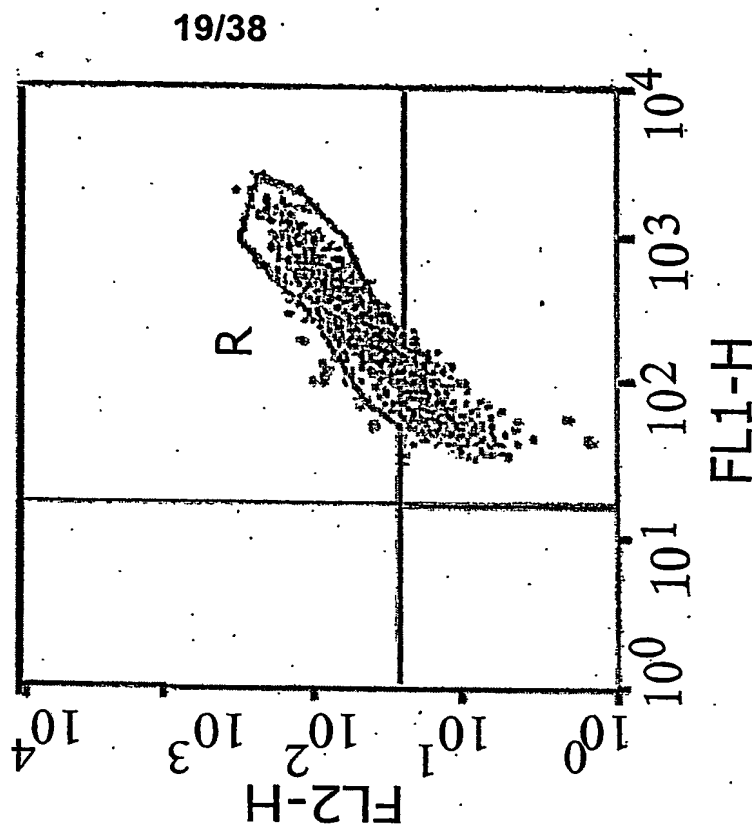
Figure 6

Figure 6

C)



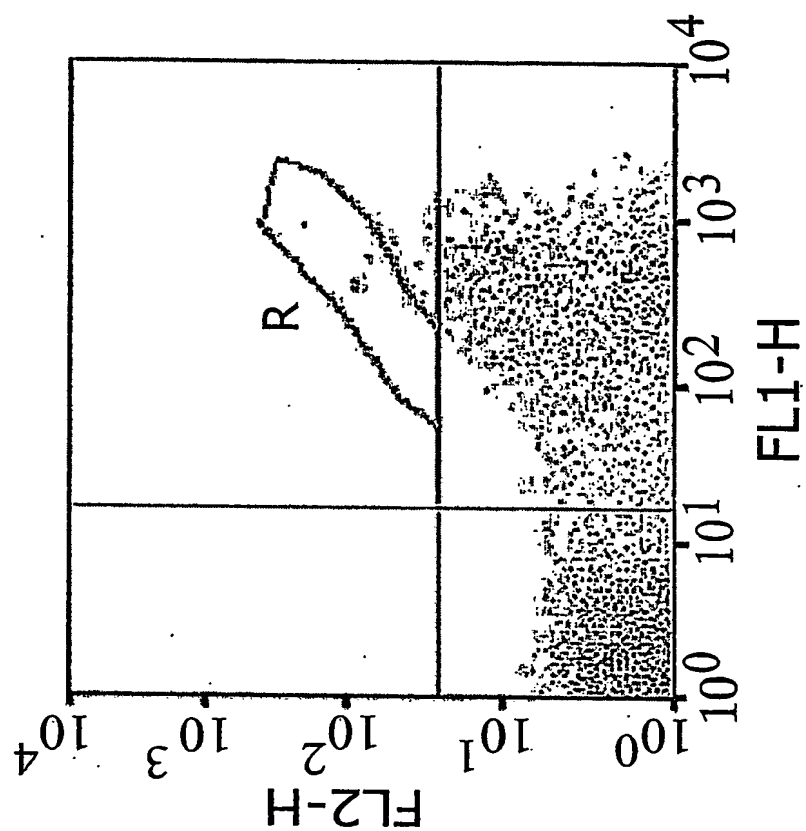
D)



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Figure 6

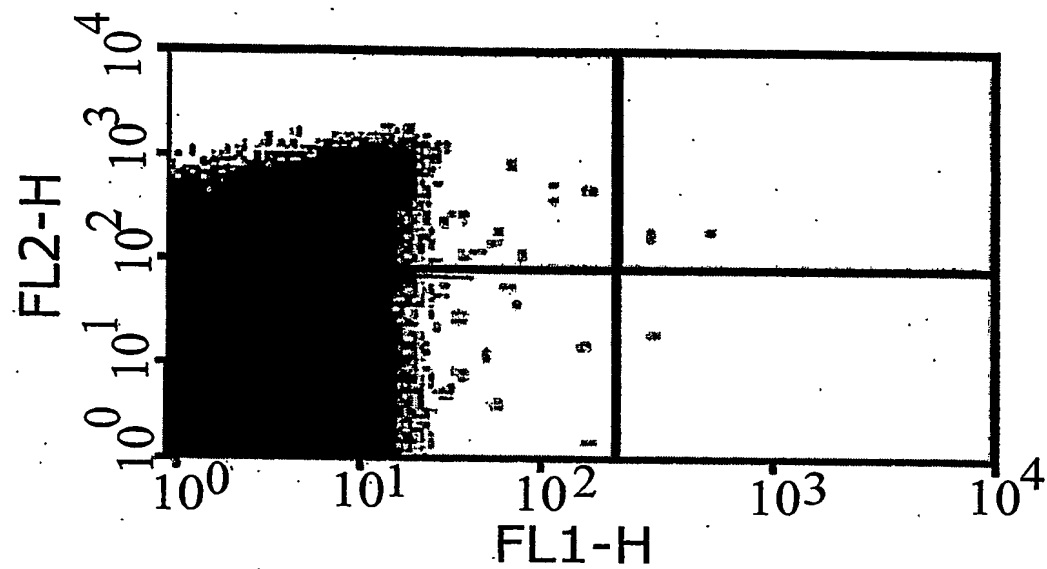
E)



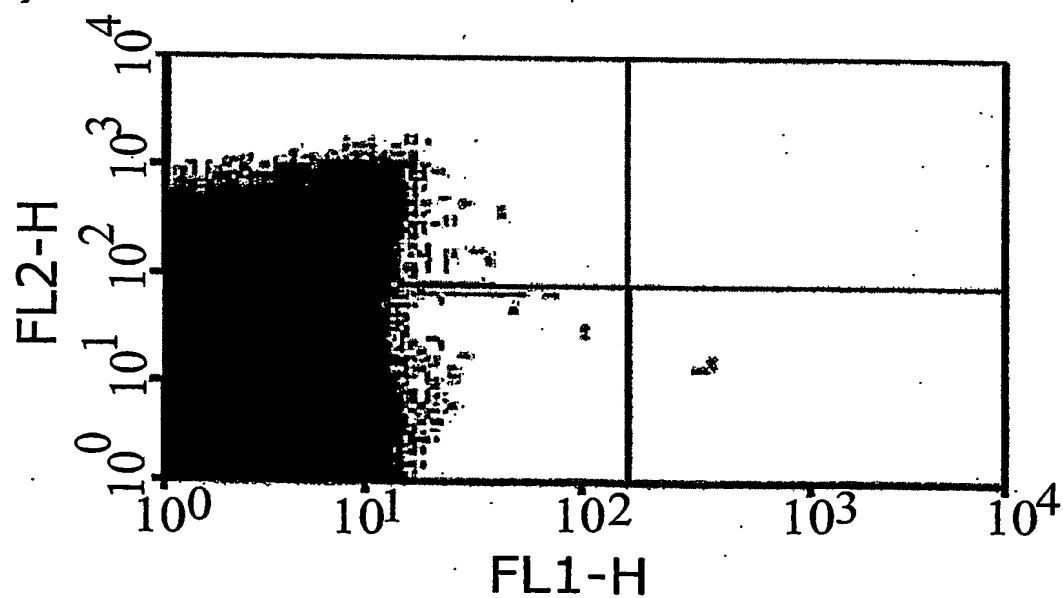
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Figure 7

A)



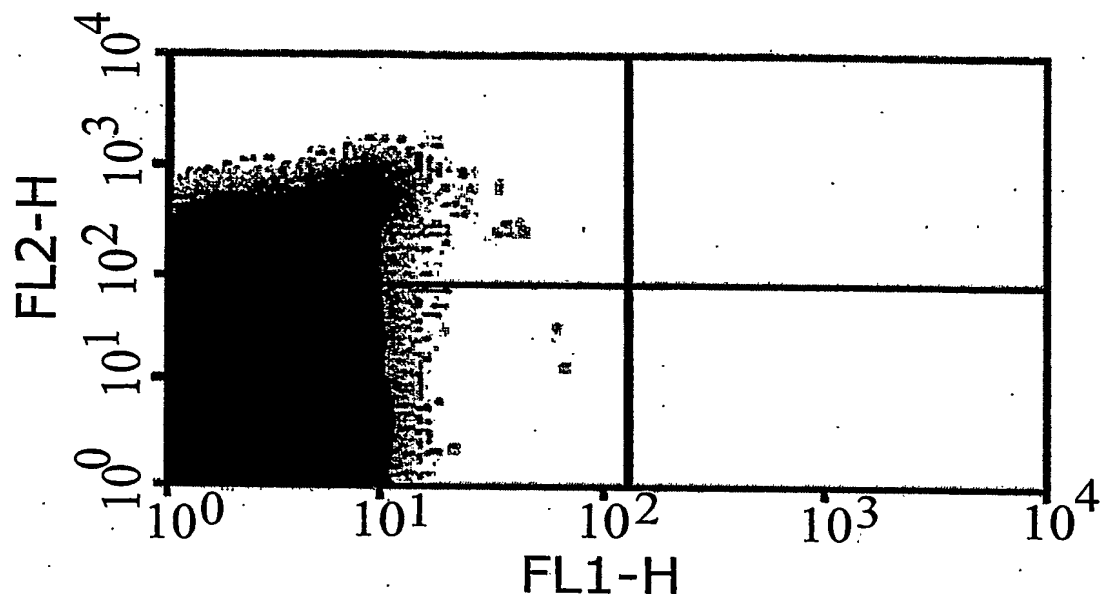
B)



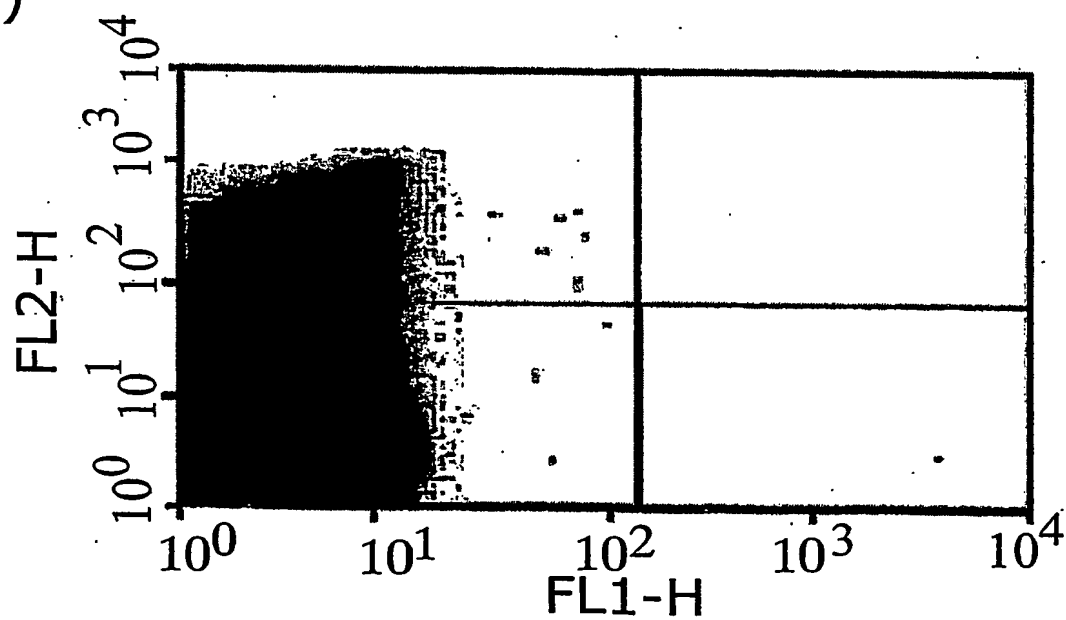
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Figure 7

C)



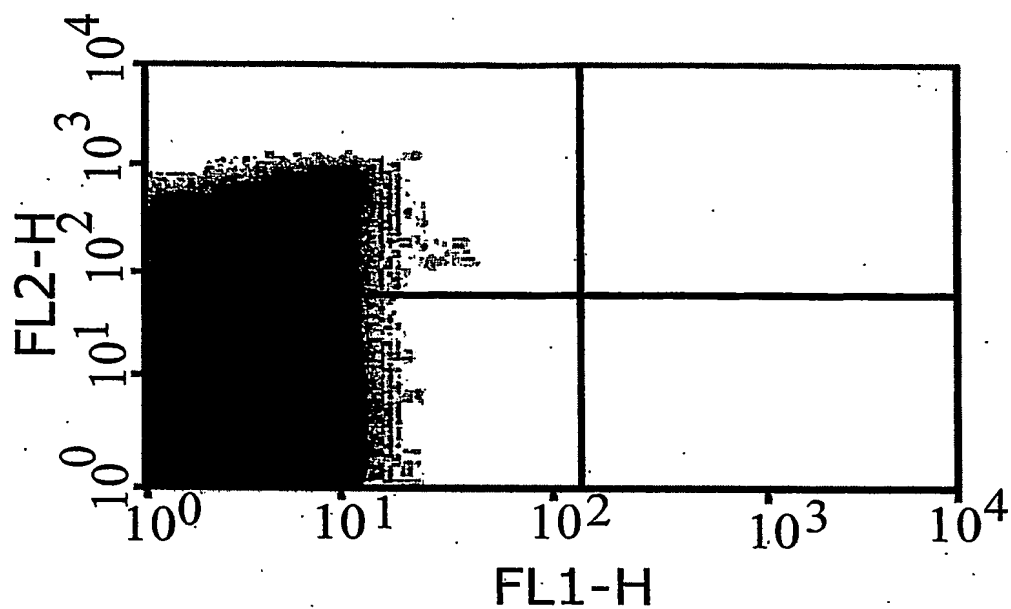
D)



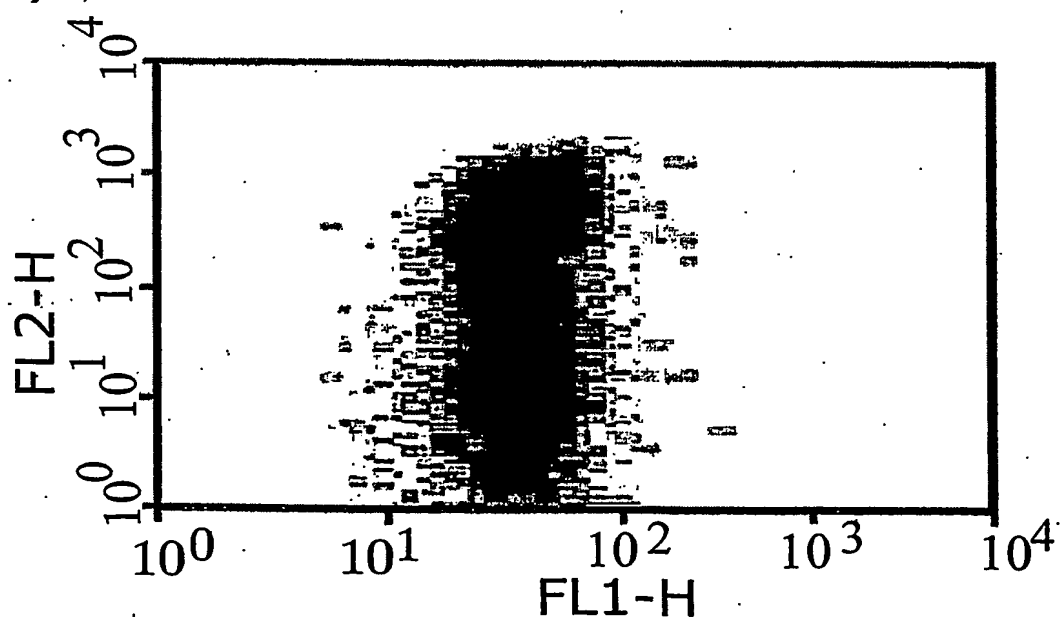
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Figure 7

E)



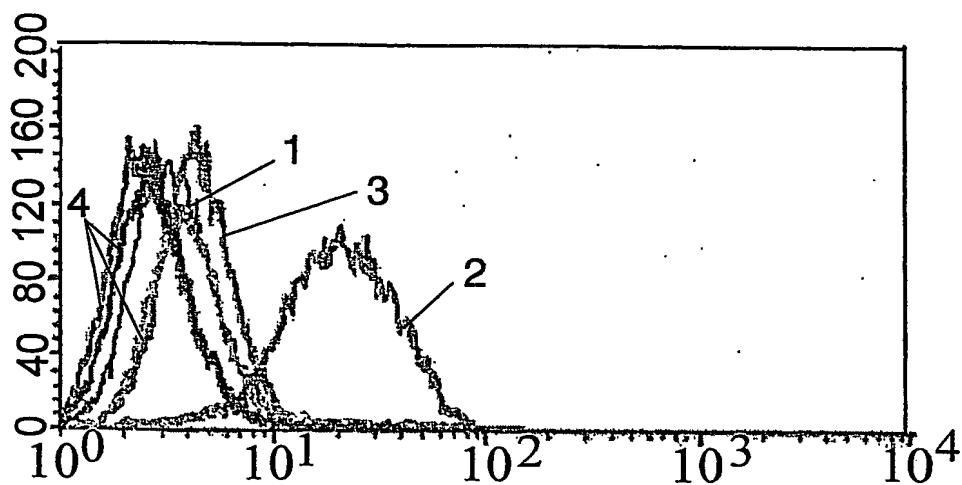
F)



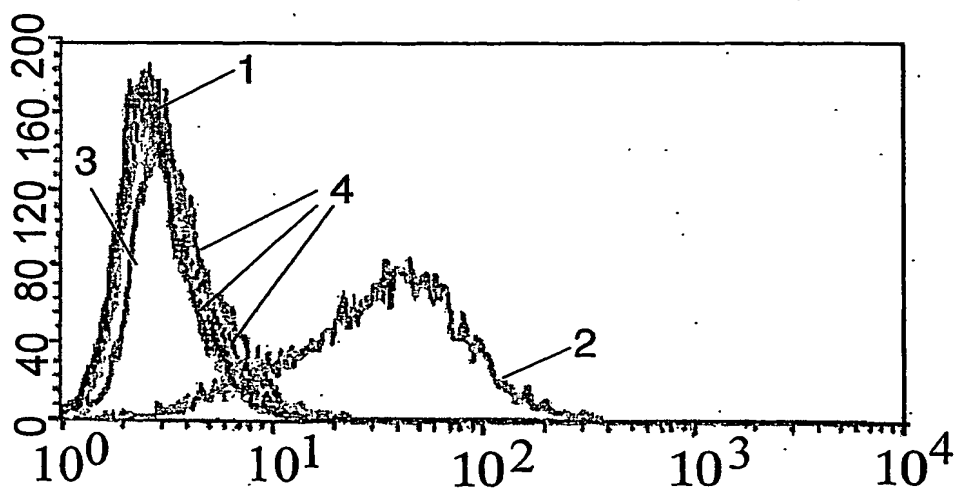
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Figure 8

A)



B)





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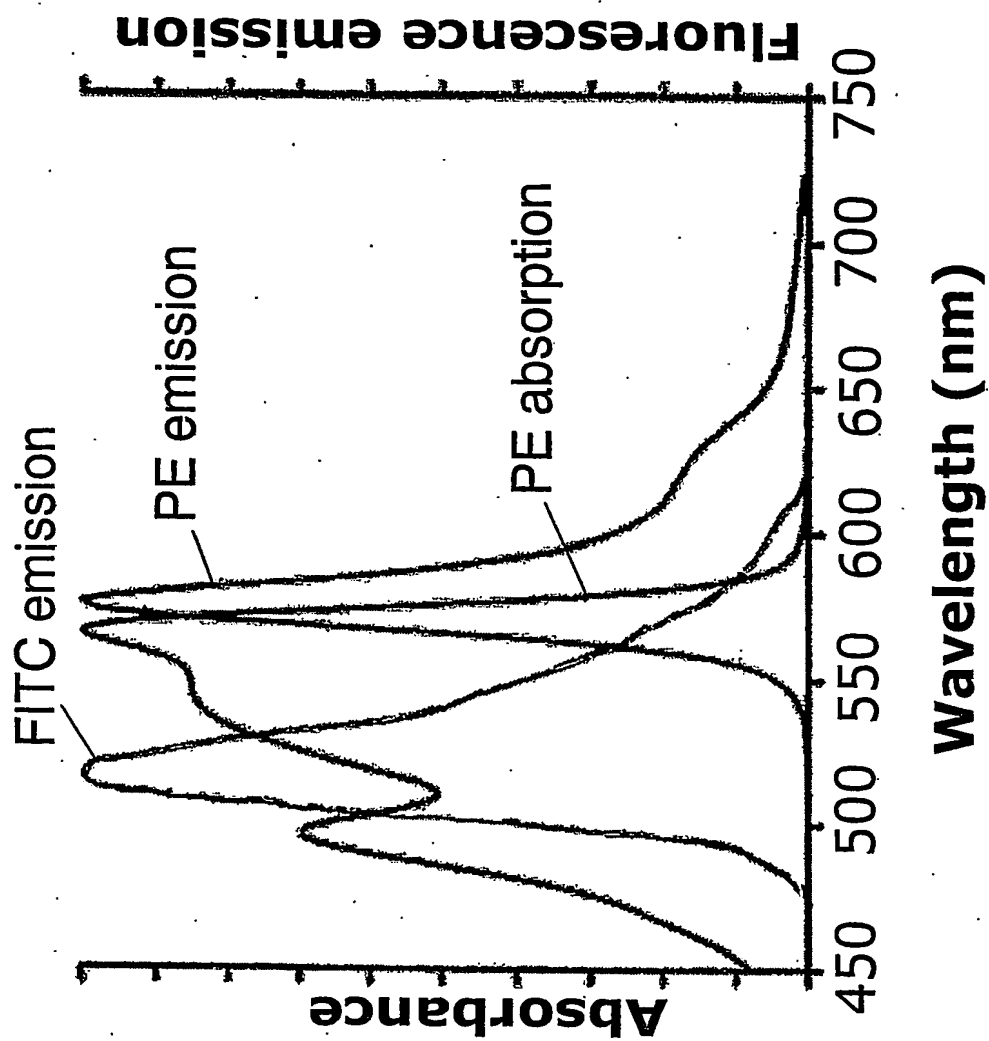


Figure 9

**Figure 10**

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**DNA sequences of VH and VL derived from cell S2****A) VH (SEQ ID NO.: 58)**

GAGGTGCAGCTGGTGGAGTCTGGGGGAGGCTTGGTACAGCCTGG  
GGGGTCCCTGAGACTCTCCTGTGCAGCCTCTGGATTCACCTTTA  
GCAGCTATGCCATGAGCTGGGTCCGCCAGGCTCCAGGGAAGGGG  
CTGGAGTGGGTCTCAGCTATTAGTGGTAGTGGTGGTAGCACATA  
CTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCAGAGACA  
ATTCCAAGAACACGCTGTATCTGCAAATGAACAGCCTGAGAGCC  
GAGGACACGGCCGTATATTACTGTGCGAAAGGAAGTGGGAGCTA  
CTATTACTACTACTACTACATGGACGTCTGGGGCAAAGGGA  
CCACGGTCACCGTCTCCTCA

**B) VL (SEQ ID NO.: 59)**

GACATCCAGGTGACCCAGTCTCCAGACTCCCTGGCTGTGTCTCT  
GGGCGAGAGGGCCACCATCAACTGCAAGTCCAGCCAGAGTGTTT  
TATACAGCTCCAACAATAAGAACTACTTAGCTTGGTACCAGCAG  
AAACCAGGACAGCCTCCTAAGCTGCTCATTTACTGGGCATCTAC  
CCGGGAATCCGGGGTCCCTGACCGATTGAGTGGCAGCGGGTCTG  
GGACAGATTTCACTCTCACCATCAGCAGCCTGCAGGCTGAAGAT  
GTGGCAGTTTATTACTGTCAGCAGTATTATAGTACCCCACTCAC  
TTTCGGCGGAGGGACCAAGGTGGAGATCAAA

**Figure 11**

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**DNA sequences of VH and VL derived from cell S9****A) VH (SEQ ID NO.: 60)**

GAGGTGCAGCTGGTGGAGTCTGGCCCAGGACTGGTGAAGCCTTC  
GGAGACCCTGTCCCTCACCTGCACTGTCTCTGGTGGCTCCATCA  
GTAGTTACTACTGGAGCTGGATCCGGCAGCCCCCAGGGAAGGGA  
CTGGAGTGGATTGGGTATATCTATTACAGTGGGAGCACCAACTA  
CAACCCCTCCCTCAAGAGTCGAGTCACCATATCAGTAGACACGT  
CCAAGAACCAGTTCTCCCTGAAGCTGAGCTCTGTGACCGCTGCG  
GACACGGCCGTGTATTACTGTGCGAGAGAGGGTGGACCTCTCAT  
CATGGGTGCTTTTGATATCTGGGGCCAAGGGACAATGGTCACCG  
TCTCTTCA

**B) VL (SEQ ID NO.: 61)**

TCTTCTGAGCTGACTCAGGACCCTGCTGTGTCTGTGGCCTTGGG  
ACAGACAGTCAGGATCACATGCCAAGGAGACAGCCTCAGAAGCT  
ATTATGCAAGCTGGTACCAGCAGAAGCCAGGACAGGCCCTGTGA  
CTTGTCATCTATGGTAAAAACAACCGGCCCTCAGGGATCCCAGA  
CCGATTCTCTGGCTCCAGCTCAGGAAACACAGCTTCCTTGACCA  
TCACTGGGGCTCAGGCGGAAGATGAGGCTGACTATTACTGTAAC  
TCCCGGGACAGCAGTGGTAACCTTTTGGTGTTCGGCGGAGGGAC  
CAAGCTGACCGTCCTA

**Figure 12**

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**Protein and DNA sequences of scFv derived  
from cell S2****A) Protein (SEQ ID NO.: 62)**

DIVMTQSPDSLAVSLGERATINCKSSQSVLYSSNNKNYLAWYQQ  
KPGQPPKLLIYWASTRESGVPDRFSGSGSGTDFTLTISSLQAED  
VAVYYCQQYYSTPLTFGGGTKVEIKGGGGSGGGGSGGGGSEVQL  
LESGGGLVQPGGSLRLSCAASGFTFSSYAMSWVRQAPGKGLEWV  
SAISGSGGSTYYADSVKGRFTISRDN SKNTLYLQMNSLRAEDTA  
VYYCAKGS GSYYYYYYYYMDVWGKGTTVTVSS

**B) DNA (SEQ ID NO.: 63)**

GACATCGTGATGACCCAGTCTCCAGACTCCCTGGCTGTGTCTCT  
GGGCGAGAGGGCCACCATCAACTGCAAGTCCAGCCAGAGTGTTT  
TATACAGCTCCAACAATAAGAACTACTTAGCTTGGTACCAGCAG  
AAACCAGGACAGCCTCCTAAGCTGCTCATTTACTGGGCATCTAC  
CCGGGAATCCGGGGGTCCCTGACCGATTTCAGTGGCAGCGGGTCTG  
GGACAGATTTCACTCTCACCATCAGCAGCCTGCAGGCTGAAGAT  
GTGGCAGTTTATTACTGTCAGCAGTATTATAGTACCCCACTCAC  
TTTCGGCGGAGGGACCAAGGTGGAGATCAAAGGTGGTGGTGGTT  
CTGGCGGCGGCGGCTCCGGTGGTGGTGGTTCTGAGGTGCAGCTG  
CTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGGTCCCTGAG  
ACTCTCCTGTGCAGCCTCTGGATTACCTTTAGCAGCTATGCCA  
TGAGCTGGGTCCGCCAGGCTCCAGGGAAGGGGCTGGAGTGGGTC  
TCAGCTATTAGTGGTAGTGGTGGTAGCACATACTACGCAGACTC  
CGTGAAGGGCCGGTTCACCATCTCCAGAGACAATTCCAAGAACA  
CGCTGTATCTGCAAATGAACAGCCTGAGAGCCGAGGACACGGCC  
GTATATTACTGTGCGAAAGGAAGTGGGAGCTACTATTACTACTA  
CTACTACTACATGGACGTCTGGGGCAAAGGGACCACGGTCACCG  
TCTCCTCA

**Figure 13**

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**Protein and DNA sequences of scFv derived from cell S9****A) Protein (SEQ ID NO.: 76)**

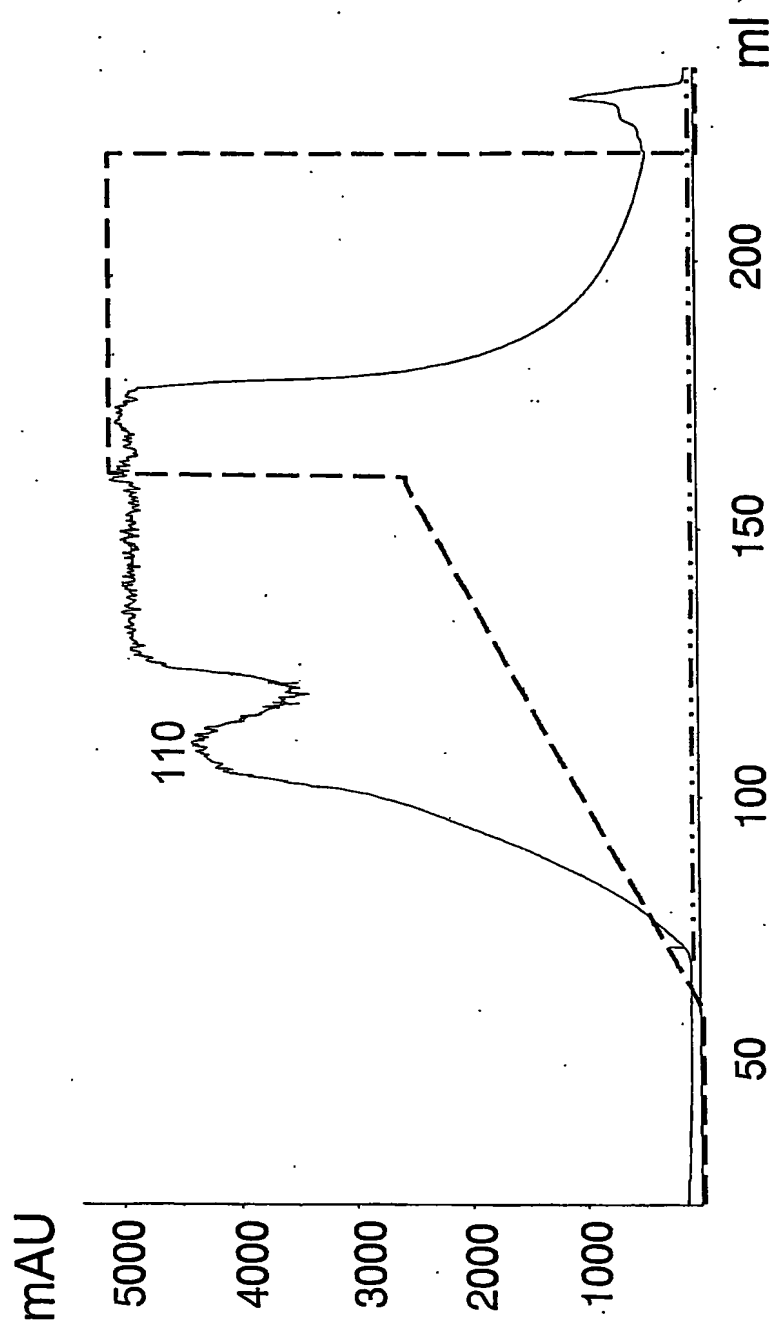
SSELTQDPAVSVALGQTVRITCQGDSLRSYYASWYQQKPGQAPV  
LVIYGKNNRPSGIPDRFSGSSSGNTASLTITGAQAEDEADYYCN  
SRDSSGNLLVFGGGTKLTVLGGGGSGGGGSGGGGSGVQLQESGP  
GLVKPSETLSLTCTVSGGSISSYYWSWIRQPPGKGLEWIGYIYY  
SGSTNYPNPSLKSRVTISVDTSKNQFSLKLSSVTAADTAVYYCAR  
EGGPLIMGAFDIWGQGTMVTVSS

**B) DNA (SEQ ID NO.: 77)**

TCTTCTGAGCTGACTCAGGACCCTGCTGTGTCTGTGGCCTTGGG  
ACAGACAGTCAGGATCACATGCCAAGGAGACAGCCTCAGAAGCT  
ATTATGCAAGCTGGTACCAGCAGAAGCCAGGACAGGCCCTGTA  
CTTGTCATCTATGGTAAAAACAACCGGCCCTCAGGGATCCCAGA  
CCGATTCTCTGGCTCCAGCTCAGGAAACACAGCTTCCTTGACCA  
TCACTGGGGCTCAGGCGGAAGATGAGGCTGACTATTACTGTAAC  
TCCCGGGACAGCAGTGGTAACCTTTTGGTGTTCGGCGGAGGGAC  
CAAGCTGACCGTCCTAGGTGGTGGTGGTTCTGGCGGCGGCGGCT  
CCGGTGGTGGTGGTTCTCAGGTGCAGCTGCAGGAGTCTGGCCCA  
GGACTGGTGAAGCCTTCGGAGACCCTGTCCCTCACCTGCACTGT  
CTCTGGTGGCTCCATCAGTAGTTACTACTGGAGCTGGATCCGGC  
AGCCCCCAGGGAAGGGACTGGAGTGGATTGGGTATATCTATTAC  
AGTGGGAGCACCAACTACAACCCCTCCCTCAAGAGTCGAGTCAC  
CATATCAGTAGACACGTCCAAGAACCAGTTCTCCCTGAAGCTGA  
GCTCTGTGACCGCTGCGGACACGGCCGTGTATTACTGTGCGAGA  
GAGGGTGGACCTCTCATCATGGGTGCTTTTGATATCTGGGGCCA  
AGGGACAATGGTCACCGTCTCTTCA

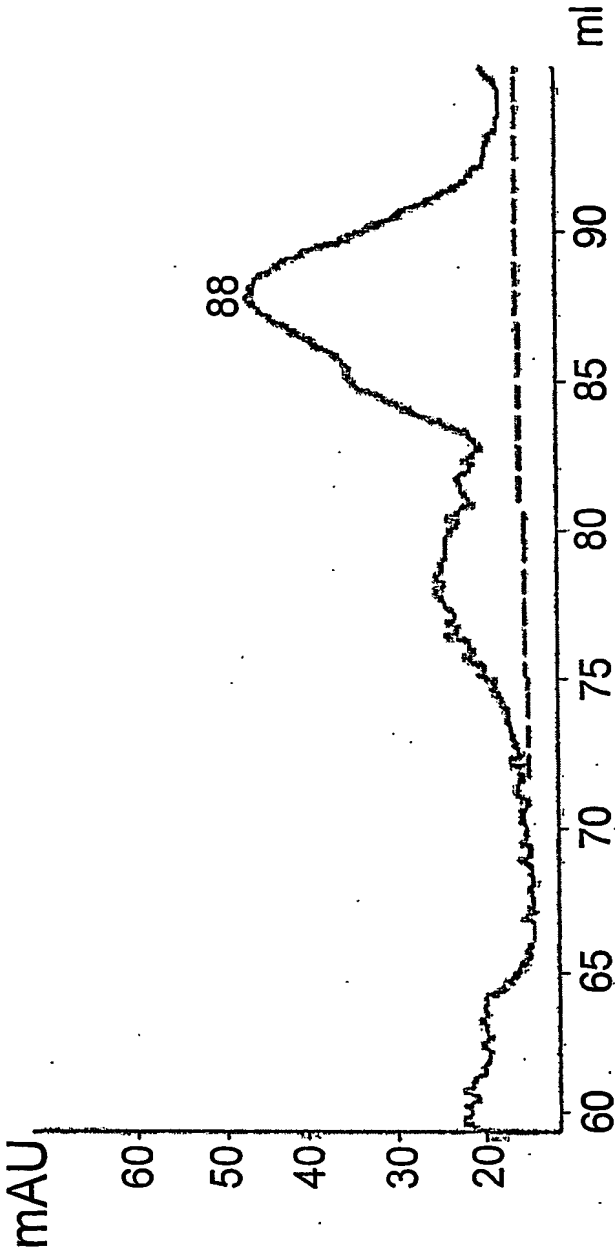
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Figure 14



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Figure 15



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Figure 16

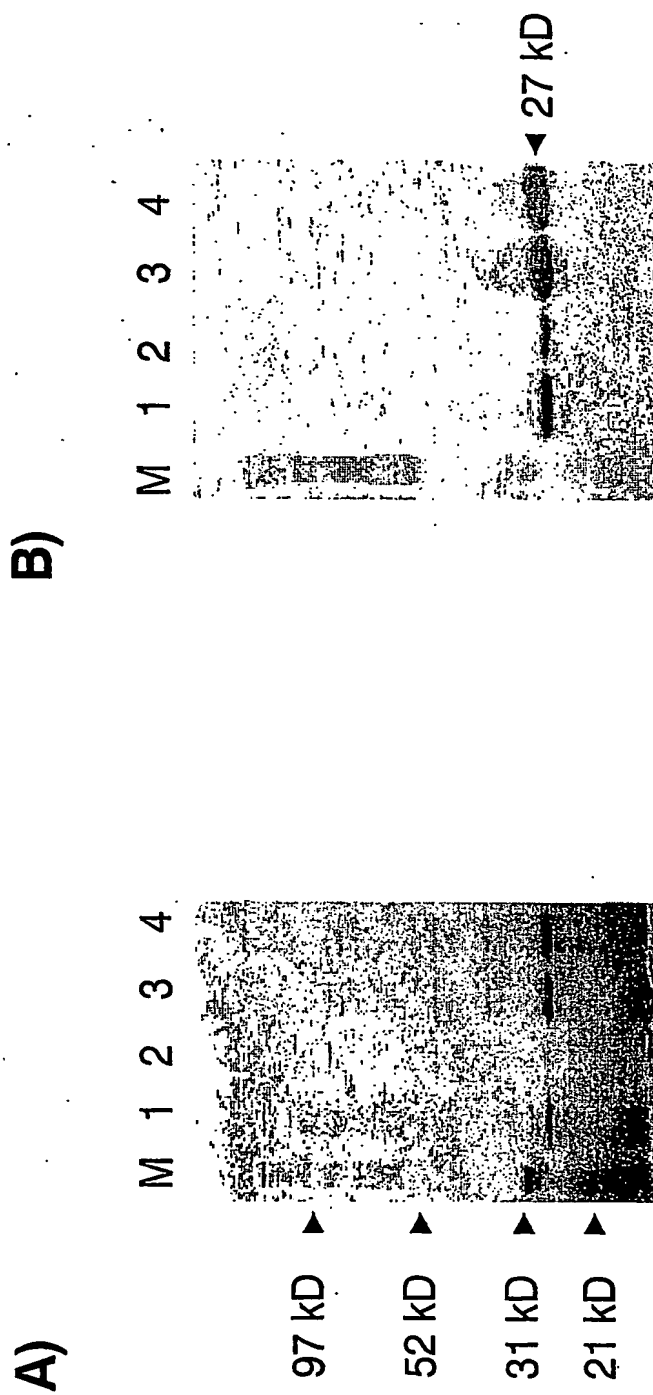
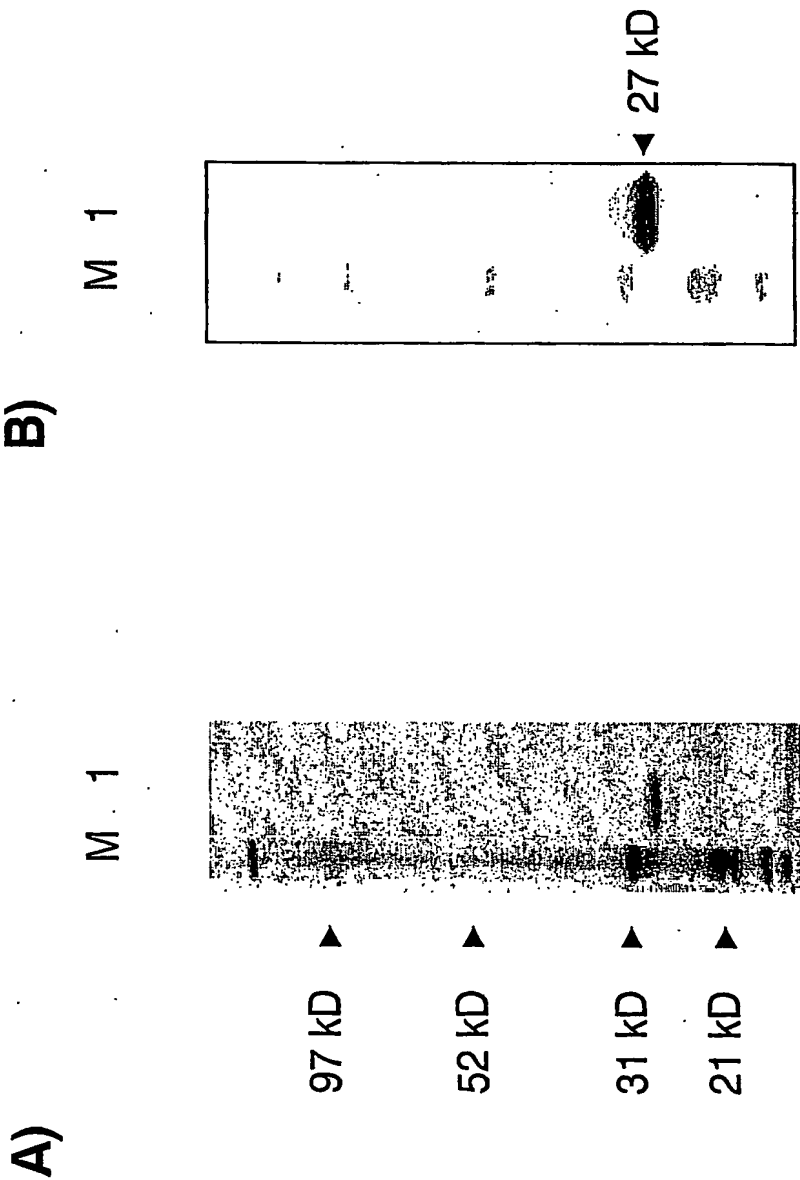




Figure 17



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Figure 18 A

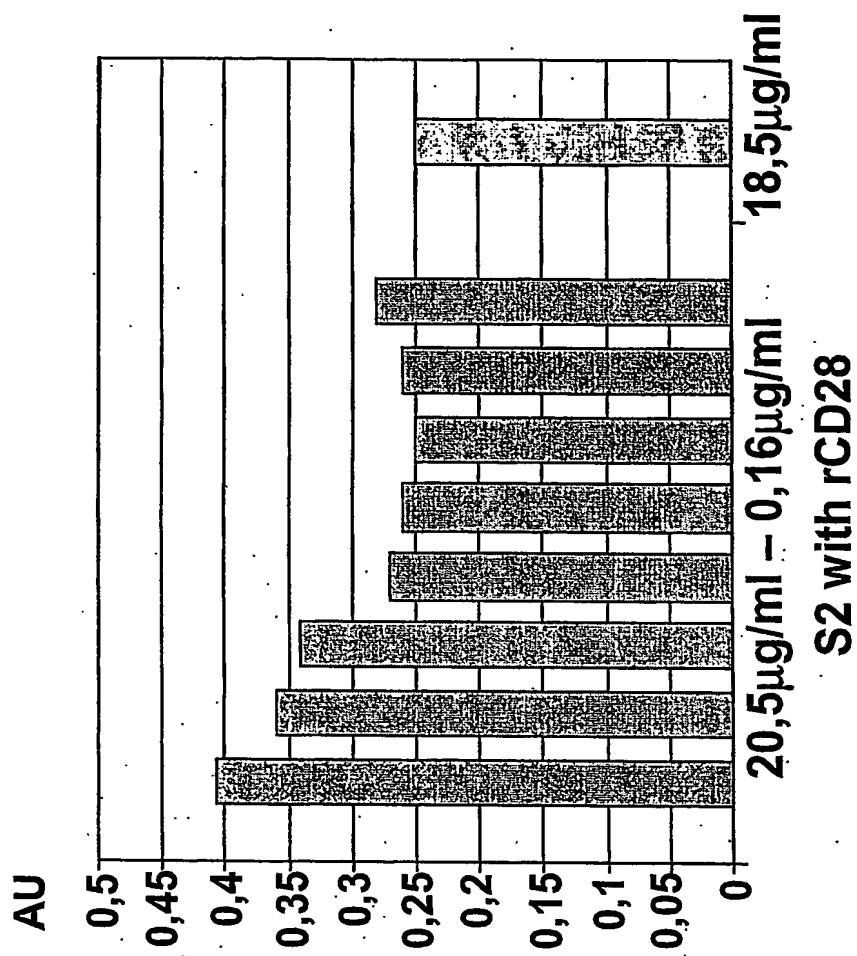
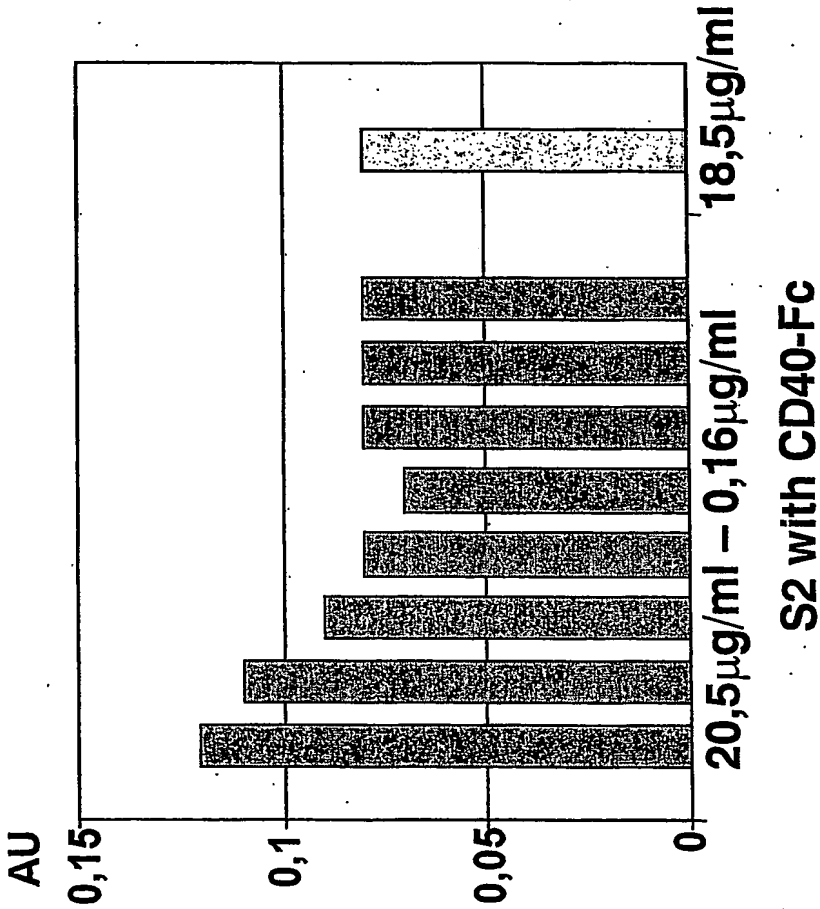
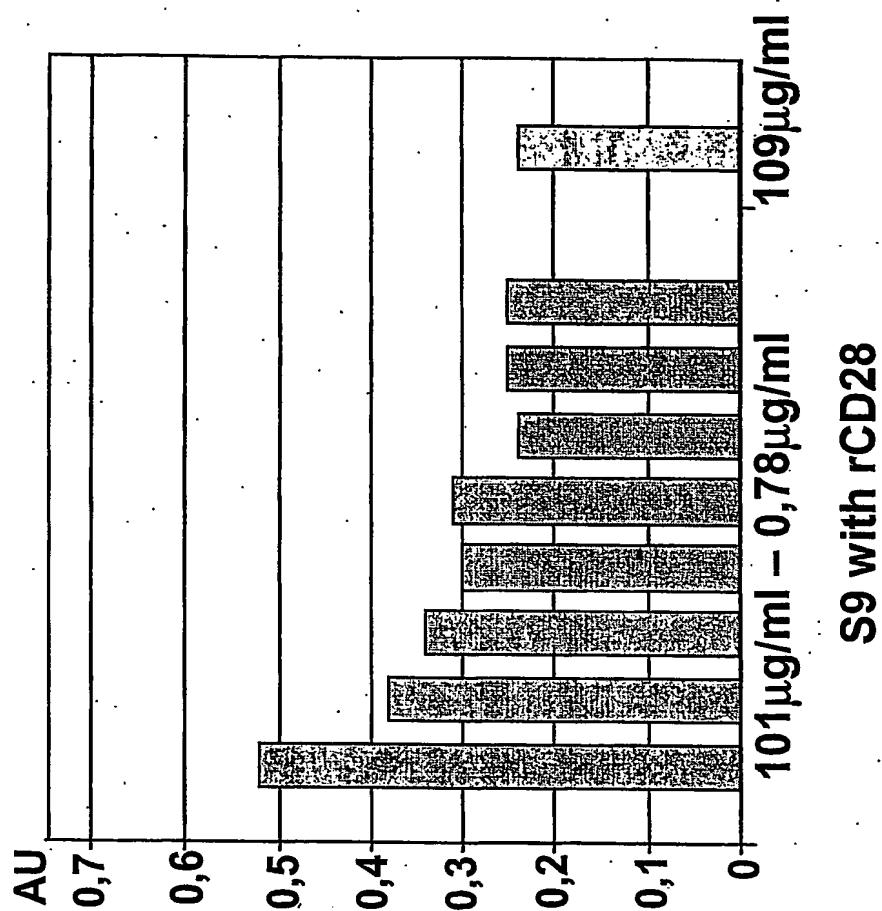


Figure 18 B



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Figure 18 C



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Figure 18 D

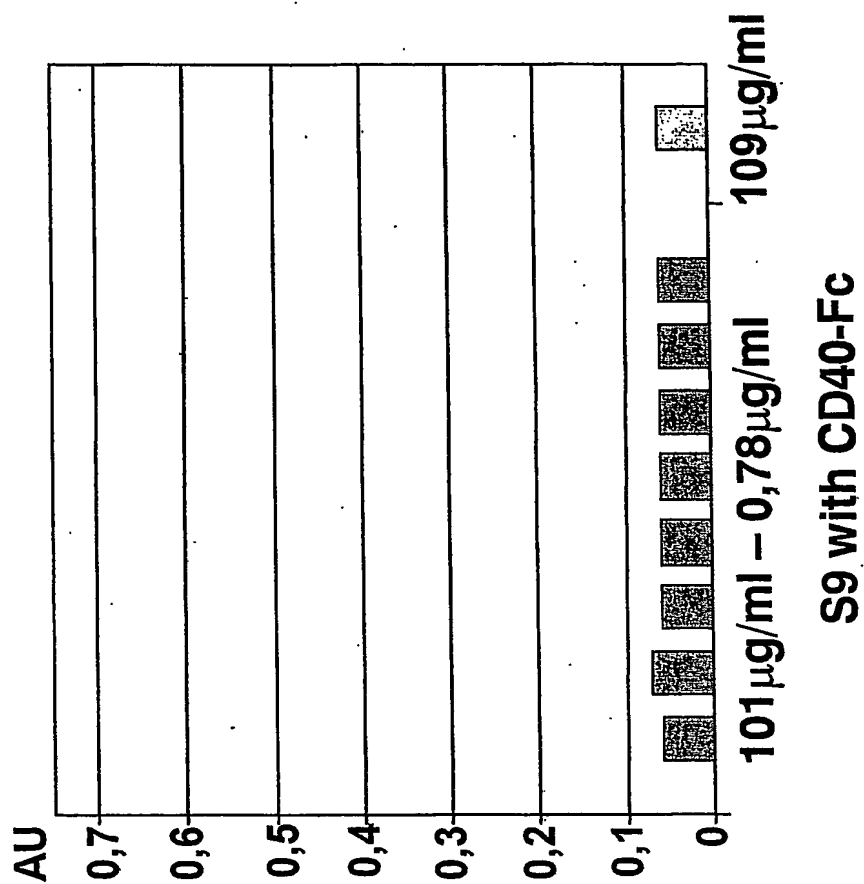
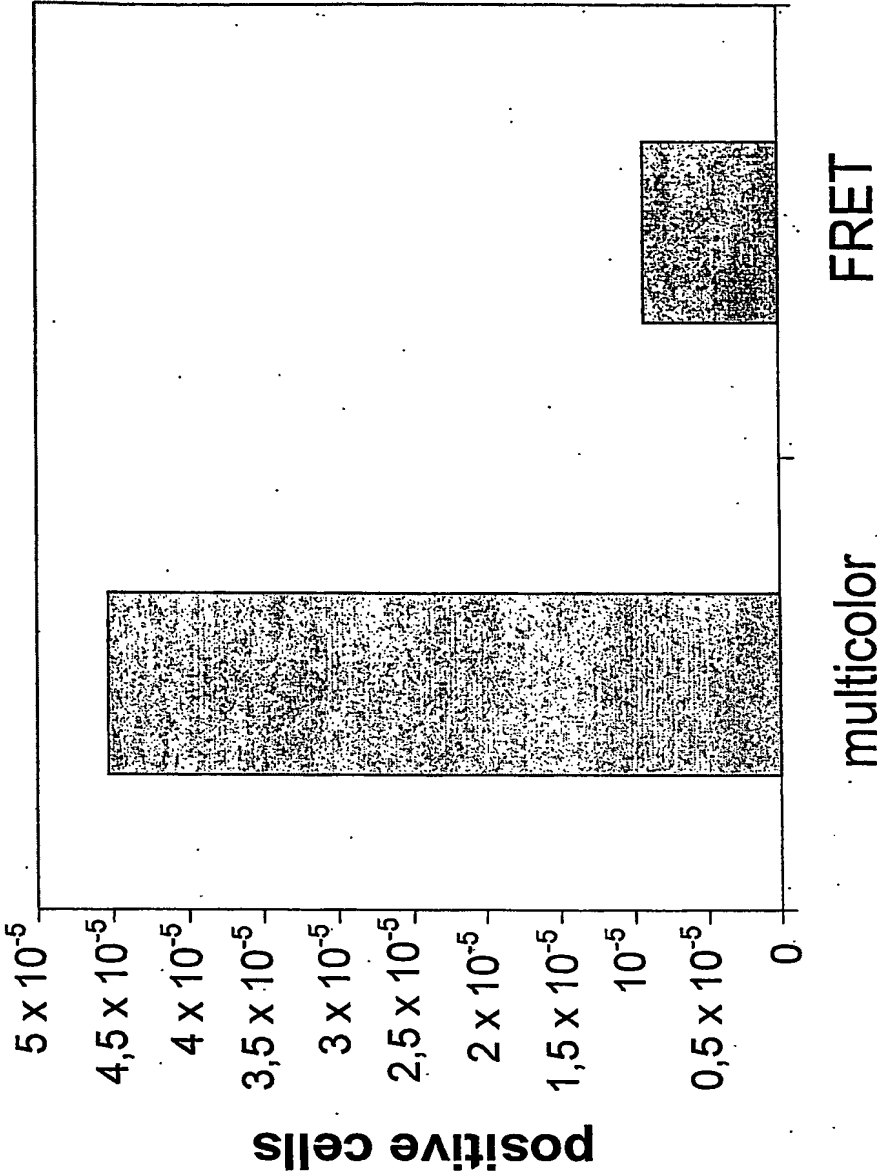


Figure 19



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